

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
Bid Fax: (902) 496-5016

INVITATION TO TENDER
APPEL D'OFFRES

**Tender To: Public Works and Government Services
Canada**

We hereby offer to sell to Her Majesty the Queen in right of
Canada, in accordance with the terms and conditions set
out herein, referred to herein or attached hereto, the goods,
services, and construction listed herein and on any attached
sheets at the price(s) set out therefor.

**Soumission aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la
Reine du chef du Canada, aux conditions énoncées ou
incluses par référence dans la présente et aux annexes
ci-jointes, les biens, services et construction énumérés
ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address
**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9

Title - Sujet REFIT FOR CCGS SPRAY	
Solicitation No. - N° de l'invitation F5561-132779/A	Date 2013-12-12
Client Reference No. - N° de référence du client F5561-13-2779	GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-403-9159
File No. - N° de dossier HAL-3-71220 (403)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-01-23	
Time Zone Fuseau horaire Atlantic Standard Time AST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Brow, Theresa	Buyer Id - Id de l'acheteur hal403
Telephone No. - N° de téléphone (902) 496-5166 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF FISHERIES AND OCEANS MARITIMES REGIONAL HQ BLDG 50 DISCOVERY DR - LEVEL 4 DARTMOUTH NOVA SCOTIA B2Y4A2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

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ha1403

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PART 1 - GENERAL INFORMATION

1.1. Introduction

The bid solicitation and resulting contract document is divided into seven parts plus annexes as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work; the Basis of Payment; Insurance Requirements; Warranty; Custody; Project Management Services; Financial Bid Presentation Sheet; Required Certifications; and Information Required for Code of Conduct Certification.

1.2 Requirement

1. The Statement of Work is;
 - a) to carry out the refit of the Canadian Coast Guard Vessel **CCGS SPRAY** in accordance With the associated Technical Specifications detailed in the Statement of Work at Annex A .
 - b) to carry out any approved unscheduled work not covered in paragraph a) above.
 - c) The refit work is scheduled to take place from February 4, 2014 to February 28, 2014.
2. There is no industrial security requirement associated with this solicitation. Other security requirements are outlined in Part 7, Article 3.
3. The requirement is exempt from the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), Annex 4 and the North American Free Trade Agreement (NAFTA), Chapter Ten Annex 1001.2b Paragraph 1; however, it is subject to the Agreement on Internal Trade (AIT) and will be limited to suppliers in Eastern Canada in accordance with Shipbuilding, Refit, Repair and Modernization Policy (1996-12-19).
4. Pursuant to section 01 of Standard Instructions 2003 and 2004, a Consent to a Criminal Record Verification form, must be submitted with the bid, by the bid solicitation closing date, for each individual who is currently on the Bidder Board of Directors.

1.3 Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2013-06-01) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Section 07(3) of 2003, Standard Instructions - Goods or Services are amended as follows:

Delete: Furthermore, the Bidder must send a written confirmation of the bid within two (2) working days after bid closing, unless specified otherwise in the bid solicitation. All documents confirming bids should bear the word "CONFIRMATION".

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) working days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a "proprietary" nature must be clearly marked "proprietary" at each relevant item. Items identified as proprietary will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2.4 Applicable Laws

1. Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

2. The Bidder may, at its discretion, substitute the applicable laws of a Canadian province or territory of its choice without affecting the validity of its bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of its choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidder.

2.5 Bidders' Conference

A bidders' conference will be held at Canadian Coast Guard Facility, Clark's Harbour, Nova Scotia on 14 January 2014. The conference will begin at 1400 hours and questions will be answered. It is recommended that bidders who intend to submit a bid attend or send a representative.

Bidders are requested to communicate with the Contracting Authority before the conference to confirm attendance. Bidders should provide, in writing, to the Contracting Authority, the names of the person(s) who will be attending and a list of issues they wish to table at least two (2) working days before the scheduled conference.

Any clarifications or changes to the bid solicitation resulting from the bidders' conference will be included as an amendment to the bid solicitation. Bidders who do not attend will not be precluded from submitting a bid.

2.6 Optional Site Visit - Vessel

It is recommended that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for a tour of the vessel. The visit will be held also on 14 January 2014. Bidders are requested to communicate with the Contracting Authority two (2) days before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders may be requested to sign an attendance form. Bidders who do not attend or send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

2.7 Work Period - Marine Work must commence and be completed as follows: February 4 to February 28, 2013

2. By submitting a bid, the Bidder certifies that they have sufficient material and human resources allocated or available and that the above work period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that bidders provide their bid as follows:

- Section I: Financial Bid (1 hard copy)
- Section II: Certifications Requirements (1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

If bids are submitted by facsimile in accordance with 2003 Standard Instructions, Section 07(3), as modified under Part 2, Article 1, then the bid should be provided in the same format as for hard copies.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>).

To assist Canada in reaching its objectives, bidders are encouraged to :

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and/or containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Financial Bid

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet at Annex I and the detailed Pricing Data Sheet, Appendix 1 to Annex I. Bidders must also submit the ITT completed and signed.

Section II: Certification Requirements

Bidders must submit the certifications required in accordance with Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

An evaluation team composed of representatives of Canada will evaluate the bids.

4.2 Basis of Selection

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

4.3 Public Bid Opening

A public bid opening will be held at the Public Works and Government Services Office, 1713 Bedford Row, Halifax, Nova Scotia at :1400 hrs. AST on January 23, 2014.

PART 5 - CERTIFICATIONS

5.1 General

Bidders must provide the required certifications to be awarded a contract. Canada will declare a bid non-responsive if the required certifications are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after contract award. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority additional information will also render the bid non-responsive.

5.2 Certifications Precedent to Contract Award

The certifications listed below should be submitted with the bid, but may be completed and submitted afterwards. If any of these required certifications are not completed or submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

1. Insurance Certification as per Part 6.3 and Annex C
2. Workers compensation letter of good standing as per Part 6.4
3. Welding Certification as per Part 6.5
4. Labour agreement as per Part 6.6
5. Project Schedule as per Part 6.7
6. Safety Measures for Fuel information as per Part 6.8
7. ISO 9001 registration documentation as per Part 6.9
8. Docking facility certification as per Part 6.10
9. Subcontractors list as per Part 6.11
10. Federal Contractors Program for Employment Equity - Certification as per 6.12 and Annex J
11. Code of Conduct Information Required as per 5.4 and Annex K

5.3 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

1. Tender Document completed and signed.
2. Pricing information and pricing data sheets as contained in Annex "I" and Appendix 1 to Annex I.

5.4 Code of Conduct Certifications - Certifications Required Precedent to Contract Award

Bidders should provide, with their bid or promptly thereafter, a complete list of names of all individuals who are currently directors of the Bidder. If such a list has not been received by the time the evaluation of bids is completed, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Bidders must submit the list of directors before contract award, failure to provide such a list within the required time frame will render the bid non-responsive.

The Contracting Authority may, at any time, request that a Bidder provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form - PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals

named in the aforementioned list within a specified delay. Failure to provide such Consent Forms within the delay will result in the bid being declared non-responsive.

PART 6 - FINANCIAL, SECURITY AND OTHER REQUIREMENTS

6.1 Security Requirement

There is no industrial security requirement associated with this requirement.

6.2 Financial Capability

SACC Manual Clause A9033T (2012-07-16) Financial Capability

6.3 Insurance Requirements

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified at Annex "C".

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

6.4 Workers Compensation - Letter of Good Standing

The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board. The Bidder must provide, within two (2) working days, following a request from the Contracting Authority, a certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared non-responsive.

6.5 Welding Certification

1. Welding must be performed by a welder certified by the Canadian Welding Bureau and in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
 - (a) CSA W47.1-03, Certification of Companies for Fusion Welding of Steel (*Minimum Division Level 2.1*);
2. Before contract award and within two (2) working days of the written request by the Contracting Authority, the successful Bidder must submit provide evidence demonstrating its certification to the welding standards. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

6.6 Valid Labour Agreement

If the Bidder has a labour agreement, or other suitable instrument, in place with its unionized labour or workforce, it must be valid for the proposed period of any resulting contract. Before contract award and within two (2) working days of written notification by the Contracting Authority, the successful Bidder must provide evidence of that agreement.

6.7 Project Schedule

Before contract award and within two (2) working days of written notification by the Contracting Authority, the successful Bidder must propose its preliminary project schedule, in Gantt chart or detailed bar chart format. The project schedule must include the Bidder's work breakdown structure; the scheduling of main activities and milestone events; and any potential problem areas involved in completing the Work.

6.8 Safety Measures For Fueling and Disembarking Fuel

Fueling and disembarking fuel from Canadian government vessels must be conducted under the supervision of a responsible supervisor trained and experienced in these operations.

Before contract award and within two (2) working days of written notification by the Contracting Authority, the successful Bidder must provide details of its safety measures for fueling and disembarking fuel, together with the name and experience of the person in charge of this activity.

6.9 ISO 9001:2000 - Quality Management Systems

Before contract award and within two (2) working days of written notification by the Contracting Authority, the successful Bidder must provide its current ISO Registration Documentation indicating its registration to ISO 9001:2000. Documentation and procedures of bidders not registered to the ISO standards may be subject to a Quality System Evaluation (QSE) by the Inspection Authority before award of a contract.

6.10 Docking Facility Certification

Before contract award, the successful Bidder may be required to demonstrate to the satisfaction of Canada that the certified capacity of the docking facility, including any means or conveyance to remove the vessel from the water, is adequate for the anticipated loading in accordance with the related dry docking plans and other documents detailed in the Contract. The successful Bidder will be notified in writing and will be allowed a reasonable period of time to provide detailed keel block load distribution sketches and blocking stability considerations, along with the supporting calculations to show the adequacy of the proposed docking arrangement.

Before contract award and within two (2) working days of written notification by the Contracting Authority, the successful Bidder must provide current and valid certification of the capacity and condition of the docking facility to be used for the Work. The certification must be provided by a recognized consultant or classification society and must have been issued within the past two years. Although a dry docking facility may have a total capacity greater than the vessel to be docked, the weight distribution of the vessel may cause individual block loading to be exceeded. While the physical dimensions of a dry docking facility may indicate acceptability for docking of a specific vessel, other limitations such as spacing of rails on a marine railway, concrete piers of abutments adjoining the dry dock may, preclude the facility from being considered as a possible dry docking site and render the bid non-responsive.

6.11 List of Proposed Subcontractors

If the bid includes the use of subcontractors, the Bidder agrees, within two (2) working days of written notification from the Contracting Authority, to provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work.

PART 7 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

7.1 Statement of Work

The Contractor must:

- a) Carry out the maintenance and alterations of the Canadian Coast Guard Vessel CCGS SPRAY in accordance with the associated Technical Specifications detailed in the Statement of Work attached as Annex A; and
- b) Carry out any approved unscheduled work not covered in paragraph (a) above.

7.2 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual issued by Public Works and Government Services Canada (PWGSC). The Manual is available on the PWGSC Website: (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>)

7.2.1 General Conditions

2030 (2013-06-27) General Conditions - Goods - Higher Complexity

7.2.2 Supplemental General Conditions

1029 (2010-08-16) Ship Repairs

7.3 Security Requirement

1. There is no industrial security requirement associated with this contract.
2. Access to Port Facilities and Government vessels is controlled. The Contractor must comply with applicable requirements. A system of positive identification, sign-in and out, and wearing of identification badges while within Port facilities or on board Government vessels is required.
3. The Contracting and the Technical Authority reserve the right to direct that Contractors personnel be security cleared as necessary.

7.4 Term of Contract

7.4.1 Work Period- Marine

1. Work must commence and be completed as follows: 4 February 2014 to 28 February 2014.

2. The Contractor certifies that they have sufficient material and human resources allocated or available and that the above work period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

7.5 Authorities

7.5.1 Contracting Authority

The Contracting Authority for the Contract is:
Theresa Brow, Marine Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch, Atlantic Region
1713 Bedford Row, Halifax, Nova Scotia B3J 3C9

Telephone: (902) 496-5166
Facsimile: (902) 496-5016
E-mail address: theresa.brow@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

7.5.2 Inspection Authority

The Inspection Authority is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority will be represented on-site by an assigned on-site Inspector and any other departmental inspectors who will from time to time be assigned in support of the designated inspector.

7.5.3 Technical Authority

The on site Technical Authority for the Contract will be named at contract award.

The Technical Authority is the on site representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for day to day on site technical matters. The on site technical authority is the designated authority for work arising including signatory authority for 1379s. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

7.5.4 Project Authority

The Project Authority for the Contract will be named at contract award.

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority; however, the Project Authority has no authority to authorize changes to the scope of

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the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

7.6 Payment

7.6.1 Basis of Payment - Firm Price or Firm Lot Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a "firm price", as specified in Annex "B of \$ TBD". Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

7.6.2 Method of Payment - Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b) all such documents have been verified by Canada;
- c) the Work delivered has been accepted by Canada.

7.6.3 SACC Manual Clauses

C6000C (2011-05-16) Limitation of Price

C0711C (2008-05-12) Time Verification

7.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
 - (a) The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
 - (b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

7.8 Certifications

SACC Manual Clause A3015C (2008-12-12) Certifications

7.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia

7.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2030 (2013-06-27) General Conditions - Goods (Higher Complexity);
- (c) the supplemental general conditions 1029 (2010-08-16) Ship Repairs;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Insurance Requirements;
- (g) Annex D, Consent to a Criminal Record Verification (PWGSC-TPSGC 229);
- (h) Annex E, Warranty;
- (i) Annex F, Not Used;
- (j) Annex G, Not Used;
- (k) Annex H, Not Used;
- (l) Annex I, Financial Bid Preparation Sheets;
- (m) Annex J, Required Certifications;
- (n) Annex K, Information Required for Code of Conduct Certification; and
- (o) the Contractor's bid dated _____ (*insert date of bid*)

7.11 Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

7.12 NOT USED

7.13 NOT USED

7.14 NOT USED

7.15 Sub-Contractors List

The Contracting Authority is to be notified, in writing, of any changes to the list of subcontractors before commencing the work.

When the Contractor sub-contracts work, a copy of the sub-contract purchase order is to be passed to the Contracting Authority. In addition, the Contractor must monitor progress of sub-contracted work and inform the Inspection Authority on pertinent stages of work to permit inspection when considered necessary by the Inspection Authority.

7.16 Work Schedule and Reports

No later than three (3) Working Days after contract award, the preliminary schedule must be revised and expanded as necessary and resubmitted before commencement of the Work. The Contractor must provide a detailed work schedule showing the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. During the work period the schedule is to be reviewed on an ongoing basis by the Inspection Authority and the Contractor, updated when necessary, and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

The schedules must be revised on a predefined basis. The revised schedules must show the effect of progressed work and approved work arising. Changes in scheduled completion dates due to unscheduled work will not be accepted except as negotiated under Design Change or Additional Work clause.

7.17 Insulation Materials - Asbestos Free

All materials used to insulate or re-insulate any surfaces on board the vessel must meet Transport Canada Marine standards, for commercial marine work, and, for all work, be free from asbestos in any form. The Contractor must ensure that all machinery and equipment located below or adjacent to surfaces to be re-insulated are adequately covered and protected before removing existing insulation.

7.18 Loan of Equipment - Marine

The Contractor may apply for the loan of the Government special tools and test equipment particular to the subject vessel as identified in the Specifications. The provision of other equipment required for the execution of work in the Specifications is the sole responsibility of the Contractor.

Equipment loaned under this provision must be used only for work under this Contract and may be subject to demurrage charges if not returned on the date required by Canada. In addition, equipment loaned under the above provision must be returned in a like condition, subject to normal wear and tear.

A list of Government equipment that the Contractor intends to request must be submitted to the Contracting Authority within *three (3) days* of Contract Award to permit timely supply or for alternate arrangements to be made. The request must state the time frame for which the equipment is required.

7.19 Trade Qualifications

The Contractor must use qualified, certified (if applicable) and competent tradespeople and supervision to ensure a uniform high level of workmanship. The Inspection Authority may request to view and record details of the certification and/or qualifications held by the Contractors tradespeople. This request should not be unduly exercised but only to ensure qualified tradespeople are on the job.

7.20 NOT USED

7.21 ISO 9001:2008 - Quality Management Systems

In the performance of the Work described in the Contract, the Contractor must comply with the requirements of ISO 9001:2000 - Quality management systems - Requirements, published by the International Organization for Standardization (ISO), current edition at date of submission of the Contractor's bid with the exclusion of the following requirement:

Design and development

It is not the intent of this clause to require that the Contractor be registered to the applicable standard; however, the Contractor's quality management system must address each requirement contained in the standard.

Assistance for Government Quality Assurance (GQA):

The Contractor must provide the Inspection Authority with the accommodation and facilities required for the proper accomplishment of GQA and must provide any assistance required by the Inspection Authority for evaluation, verification, validation, documentation or release of product.

The Inspection Authority must have the right of access to any area of the Contractor's or Subcontractor's facilities where any part of the Work is being performed. The Inspection Authority must be afforded unrestricted opportunity to evaluate and verify Contractor conformity with Quality System procedures and to validate product conformity with contract requirements. The Contractor must make available, for reasonable use by the Inspection Authority, the equipment necessary for all validation purposes. Contractor personnel must be made available for operation of such equipment as required.

When the Inspection Authority determines that GQA is required at a subcontractor's facilities, the Contractor must provide for this in the purchasing document and forward copies to the Inspection Authority, together with relevant technical data as the Inspection Authority may request.

The Contractor must notify the Inspection Authority of non-conforming product received from a subcontractor when the product has been subject to GQA.

7.22 NOT USED**7.23 Welding Certification**

1. The Contractor must ensure that welding is performed by a welder certified by the **Canadian Welding Bureau (CWB)** in accordance with the requirements of the following **Canadian Standards Association (CSA)** standards:

(a) CSA W47.1-03, Certification for Companies for Fusion Welding of Steel Structures Minimum division level 2.0;

2. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

3. Prior to the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel he intends to use in the performance of the Work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

7.24 Environmental Protection

The Contractor and its subcontractors engaged in the Work on a Canadian Government vessel must carry out the Work in compliance with applicable municipal, provincial and federal environmental laws, regulations and industry standards.

The Contractor must have detailed procedures and processes for identifying, removing, tracking, storing, transporting and disposing of all potential pollutants and hazardous material encountered, to ensure compliance as required above. All waste disposal certificates are to be provided to the Inspection Authority, with information copies sent to the Contracting Authority. Furthermore, additional evidence of compliance with municipal, provincial and federal environmental laws and regulations is to be furnished by the Contractor to the Contracting Authority when so requested.

The Contractor must have environmental emergency response plans and/or procedures in place. Contractor and subcontractor employees must have received the appropriate training in emergency preparedness and response. Contractor personnel engaging in activities which may cause environmental impacts or potential non compliance situations, must be competent to do so on the basis of appropriate education, training, or experience.

7.25 Supervision of Fueling and Disembarking Fuel

The Contractor must ensure that fueling and disembarking of fuel from Canadian government vessels are conducted under the supervision of a responsible supervisor trained and experienced in these operations.

7.26 Procedures for Design Change or Additional Work

The following procedures must be followed for any design change or additional work.

1. When Canada requests design change or additional work:

(a) The Technical Authority will provide the Contracting Authority with a description of the design change or additional work in sufficient detail to allow the Contractor to provide the following information:

- (i) any impact of the design change or additional work on the requirement of the Contract;
- (ii) a price breakdown of the cost (increase or decrease) associated with the implementation of the design change or the performance of the additional work using either the Form PWGSC1686, Quotation for Design Change or Additional Work, or the Form PWGSC 1379, Work Arising or New Work, or any other form required by Canada;
- (iii) a schedule to implement the design change or to perform the additional work and the impact on the contract delivery schedule.

(b) The Contracting Authority will then forward this information to the Contractor.

(c) The Contractor will return the completed form to the Contracting Authority for evaluation and negotiation. Once agreement has been reached, the form must be signed by all parties in the appropriate signature blocks. This constitutes the written authorization for the Contractor to proceed with the work, and the Contract will be amended accordingly.

2. When the Contractor requests design change or additional work:

- (a) The Contractor must provide the Contracting Authority with a request for design change or additional work in sufficient detail for review by Canada.
 - (b) The Contracting Authority will forward the request to the Technical Authority for review.
 - (c) If Canada agrees that a design change or additional work is required, then the procedures detailed in paragraph 1 are to be followed.
 - (d) The Contracting Authority will inform the Contractor in writing if Canada determines that the design change or additional work is not required.
3. The Contractor must not proceed with any design change or additional work without the written authorization of the Contracting Authority. Any work performed without the Contracting Authority's written authorization will be considered outside the scope of the Contract and no payment will be made for such work.

7.27 NOT USED

7.28 NOT USED

7.29 NOT USED

7.30 Vessel UnManned Refits

A0032C (2011-05-06) Vessel Unanned Refits

7.31 Pre-Refit Meeting

A Pre-Refit meeting will be convened and chaired by the Contracting Authority at the Repair facility the first working day of the work period.

7.32 Progress Meetings

Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility as and when required, generally once a month. Interim meetings may also be scheduled. Contractor's attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate technical meetings to be chaired by the Technical Authority.

7.33 Outstanding Work and Acceptance

1. The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the work period. This list will form the annexes to the formal acceptance document for the vessel. A contract completion meeting will be convened by the Inspection Authority on the work completion date to review and sign off the form PWGSC-TPSGC1205, Acceptance. In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until that work is completed.
2. The Contractor must complete the above form in three (3) copies, which will be distributed by the Inspection Authority as follows:
 - (a) original to the Contracting Authority;
 - (b) one (1) copy to the Technical Authority;
 - (c) one (1) copy to the Contractor.

7.34 Licensing

The Contractor must obtain and maintain all permits, licenses and certificates of approval required for the Work to be performed under any applicable federal, provincial or municipal legislation. The Contractor is responsible for any charges imposed by such legislation or regulations. Upon request, the Contractor must provide a copy of any such permit, license or certificate to Canada.

7.35 Hazardous Waste - Vessels

SACC Manual Clause A0290C (2008-05-12) Hazardous Waste - Vessels

7.36 Not Used**7.37 Scrap and Waste Material**

SACC Manual Clause A9055C (2010-08-16) Scrap and Waste Material

7.38 Stability

The Contractor will be solely responsible for the stability and trim of the ship during the period the vessel is in the Contractor's facility, including docking and undocking. The Contractor must maintain weight change information pertinent to the vessel's stability during the docking period. The Technical Authority will supply the Contractor with cross curves of stability, hydrostatic curves, tank status, location of center of gravity, and other information relevant to the ship's condition upon handing over of the vessel.

7.39 Vessel Access by Canada

SACC Manual Clause A9066C (2008-05-12) Vessel - Access by Canada

7.40 Title to Property - Vessel

SACC Manual Clause A9047C (2008-05-12) Title to Property - Vessel

7.41 Workers Compensation

SACC Manual Clause A0285C (2007-05-25) Workers Compensation

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ANNEX A
STATEMENT OF WORK

The entire Statement of Work is incorporated into and forms part of this document. It is attached hereto as a separate electronic document entitled:

CCGS SPRAY
SPECIFICATION NO. 13-S040-017-1

ANNEX B BASIS OF PAYMENT

THE FOLLOWING WILL BE COMPLETED BY PWGSC PRIOR TO CONTRACT AWARD AND WILL FORM THE BASIS OF PAYMENT FOR THE RESULTING CONTRACT AS PER PART 7, CLAUSE 6.1.

B1 Contract Price

Firm Price for Known Work

\$ _____

For completion of work specified as per Annex A and detailed in Appendix 1 to Annex A

HST

\$ _____

Total Contact Price

\$ _____

Firm Hourly Charge-out Labour Rate

\$ _____

Daily Services Fees

As per article 14

i) working days on drydock = \$ _____

li) non-working days on drydock = \$ _____

ii) working days at berth = \$ _____

iv) non-working days at berth = \$ _____

B2 Unscheduled Work

Unscheduled work arising, as authorized by the Minister, will be calculated in the following manner:

Number of hours (to be negotiated) multiplied by your firm hourly *Charge-out Labour Rate* which includes *Overhead* and profit, plus net laid-down cost of materials to which will be added a 10% mark-up, plus Goods and Services Tax or Harmonized Sales Tax as applicable, of the total cost of material and labour. The firm hourly *Charge-out Labour Rate* and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments.

B2.1 Notwithstanding definitions or usage elsewhere in this document, or in the Bidders Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package. Elements of *Related Labour Costs* identified in I2.2 will not be negotiated, but will be compensated for in accordance with I2.2 It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.

B2.2: Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and

Reporting, and Estimating will be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate*.

B2.3: The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. A separate labour component for the purchase and handling of materials or subcontract administration is not allowable.

B3 Overtime

No overtime work will be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated by taking the average hourly direct labour rate premiums, plus certified fringe benefit additives, plus profit of 7 1/2 percent on labour premium and fringe benefits. These rates will remain firm for the duration of the Contract including all amendments and are subject to audit if deemed necessary by Canada.

B4 Daily Services Fees

In the event of a delay in the performance of the Work, and if such delay is recognized and agreed upon by the Contracting Authority as being attributable to Canada, Canada agrees to pay the Contractor the daily services fee, described below, for each day of such delay. This fee will be the sole liability of Canada to the Contractor for the delay.

The fees will include administrative support, production services, quality assurance, material support, and all other resources, direct costs, overhead and consumables needed to maintain the Vessel at the Contractor's facility. Daily fees for additional days on dock shall be inclusive of layday charges. These fees are firm and not subject to any additional charges for mark-up or profit.

Ship services as indicated within services (specification item HD-02) will be paid based on unit cost as bid. The daily service fee bid in Annex I will apply to all additional days.

ANNEX C INSURANCE REQUIREMENTS

C1 Ship Repairers' Liability Insurance

1. The Contractor must obtain Ship Repairer's Liability Insurance and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and in the annual aggregate.
2. The Ship Repairer's Liability insurance must include the following:
 - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
 - (b) Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Canadian Coast Guard and Public Works and Government Services Canada for any and all loss of or damage to the vessel, however caused.
 - (c) Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of cancellation.
 - (d) Contractual Liability: The policy must, on a blanket basis or by specific reference to the contract, extend to assumed liabilities with respect to contractual provisions.
 - (e) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

C2 Commercial General Liability Insurance

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability Insurance policy must include the following:
 - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
 - (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
 - (c) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
 - (d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

- (e) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
- (f) Employees and, if applicable, Volunteers must be included as Additional Insured.
- (g) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
- (h) Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
- (i) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
- (j) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
- (k) Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.
(Derived from - Provenant de: G2001C, 2008-05-12)

C3. Limitation of Liability

1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.
2. Whether the claim is based in contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of failure to perform the Contract is limited to \$10,000,000.00 per incident or occurrence, to an annual aggregate of \$20,000,000 for damages caused in any one year of carrying out of the Contract, each such year starting on the date of coming into force of the Contract or its anniversary, and to a total maximum liability of \$40,000,000.00. This limitation of the Contractor's liability does not apply to:
 - (a) any infringement of intellectual property rights; or
 - (b) any breach of warranty obligations.
3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.

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ANNEX D
Consent to a Criminal Record Verification (PWGSC-TPSGC 229)

Available as an attachment via GETS

ANNEX E WARRANTY

D1 2030 (2013-06-27) General Conditions - Goods (Higher Complexity), are hereby amended as follows:

Delete Section 2030 (22) (2013-06-27) Warranty, and Insert the following:

1. At the discretion of the Minister, the Contractor will replace or make good at its own expense any finished work, excluding Government Issue incorporated therein, which becomes defective or which fails to conform to contract requirements as a result of faulty or inefficient manufacture, material or workmanship.
2. Notwithstanding prior acceptance of the finished work, and without restricting any other term of the Contract or any condition, warranty or provision implied or imposed by law, the Contractor hereby warrants that the following are free from all defects and conform with the requirements of the contract:

- a. The painting of the underwater portion of the hull for a period of three hundred sixty five (365) days commencing from the date of undocking, except that the Contractor will only be liable to repair and/or replace to a value to be determined as follows:
Original cost to Canada of the underwater painting Work, divided by three hundred sixty five (365) days and multiplied by the number of days remaining in the warranty period.
The resultant would represent the "Dollar Credit" due to Canada from the Contractor.

All other painting Work for a period of three hundred sixty five (365) days commencing from the date of acceptance of the Work;

- b. All parts and materials supplied for the Work for a period of three hundred and sixty five (365) days commencing from the date of acceptance of the Work;
- c. All other items of Work for a period of ninety (90) days commencing from the date of acceptance of the Work, except that:
 - i. the warranty on the Work related to any system or equipment not immediately placed in continuous use or service must extend for a period of ninety (90) days from the date of acceptance of the vessel;
 - ii. for all outstanding defects, deviations, and Work items listed on the Acceptance Document at Delivery, the Warranty will be ninety (90) days from the subsequent date of acceptance for each item.

3. The Contractor agrees to pass to Canada, and exercise on behalf of Canada, all warranties on the Materials and/or labour supplied or held by the Contractor which exceed the periods indicated above.

D2 Warranty Procedures

1. Scope

- a. The following are the procedures which suit the particular requirements for warranty considerations for a vessel on completion of a refit.

2. Definition

- a. There are a number of definitions of warranty most of which are intended to describe its force and effect in law. One such definition is offered as follows:
A warranty is an agreement whereby the vendors or manufacturers responsibility for performance of its product is extended for a specific period of time beyond the date at which the title to the product passes to the buyer.

3. Warranty Conditions

- a. General Conditions 2030 General Conditions - Goods (Higher Complexity) are augmented by clauses incorporated into the subject Contract.
- b. The warranty periods may be stated in more than one part:
- 90 days commencing from the day the PWGSC 1205 Acceptance Document is signed for workmanship provided by the contractor for the refit work specified;
 - 365 days from the date of acceptance for the specified areas of painting;
 - 365 days commencing from the day the PWGSC 1205 Acceptance Document is signed for parts and material provided by the contractor for the refit work specified;
 - Any other specific warranty periods that may be required in the contract or offered by the Contractor.
- c. The foregoing does not cover the disposition of other deficiencies that will be directly related to Technical Authority problem areas of the following nature:
- items becoming unserviceable that were not included in the refit specification;
 - refit specifications or other related documentation requiring amendments or corrections to increase viability; and
 - work performed that is directly related to the Technical Authority.

4. Reporting Failures With Warranty Potential

- a. The initial purpose of a report of a failure is to facilitate the decision as to whether or not to involve warranty and to generate action to effect repairs. Therefore in addition to identification, location data, etc. the report must contain details of the defect. Warranty decisions as a general rule are to be made locally and the administrative process is to be in accordance with procedures as indicated.
- b. These procedures are necessary as invoking a warranty does not simply mean that the warrantor will automatically proceed with repairs at his expense. A review of the defect may well result in a disclaimer of responsibility, therefore, it is imperative that during such a review the Department is directly represented by competent technical authority qualified to agree or disagree with the warrantors assertions.

5. Procedures

- a. Immediately it becomes known to the Ship's Staff that an equipment/system is performing below accepted standards or has become defective, the procedures for the investigation and reporting are as follows:
- The vessel advises the Technical Authority when a defect, which is considered to be directly associated with the refit work, has occurred.
 - On review of the Specification and the Acceptance Document, the Technical Authority in consort with Ship's Staff is to complete the Tombstone Data and section 1 of the Warranty Claim Form Appendix 1 to Annex E and forward the original to the Contractor for review with a copy to the PWGSC contracting Authority. If the PWGSC Contracting or Inspection Authority is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to

be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

Warranty defect claims may be forwarded in hard copy, by fax or by e-mail whichever format is the most convenient.

- iii.. Assuming the Contractor accepts full responsibility for repair, the Contractor completes Section 2 and 3 of the Warranty Claim Form, returns it to the Inspection Authority who confirms corrective action has been completed, and who then distributes the form to the Technical Authority and the PWGSC Contracting Authority.
- b. In the event that the Contractor disputes the claim as a warranty defect, or agrees to share, the contractor is to complete Part 2 of the Warranty Claim Form with the appropriate information and forward it to the Contracting Authority who will distribute copies as necessary.
- c. When a warranty defect claim is disputed by the Contractor, the Technical Authority may arrange to correct the defect by in-house resources or by contracting the work out. All associated costs must be tracked and recorded as a possible charge against the contractor by PWGSC action. Material costs and manhours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.
- d. Defective equipment associated with potential warranty should not normally be dismantled until the contractors representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

6. Liability

- a. Agreement between the Contracting Authority, Inspection Authority, Technical Authority and the Contractor will result in one of the following conditions:
 - i. The contractor accepts full responsibility for costs to repair or overhaul under the warranty provisions of the contract;
 - ii. The Technical Authority accepts full responsibility for repair and overhaul of item concerned; or
 - iii. The Contractor and the Technical Authority agree to share responsibility for the costs to repair or overhaul the unserviceable item, in such cases the PWGSC Contracting Authority will negotiate the best possible sharing arrangement.
- b. In the event of a disagreement as in paragraph 5c, PWGSC will take necessary action with the contractor while the Technical Authority informs its Senior Management including pertinent data and recommendations.
- c. The total cost of processing warranty claims must include accommodation and travel costs of the contractors employees as well as equipment/system down time and operational constraints. Accordingly, the cost to remediate the defect, in manhours and material, will be discussed between the Contracting/Inspection Authorities and the Technical Authority to determine the best course of action.

7. Alongside Period For Warranty Repairs and Checks

- a. If at all possible, an alongside period for the vessel is to be arranged just before the expiration of the 90 day warranty period. This alongside period is to provide time for warranty repair and check by the contractor.

- b. In respect to the underwater paint, should it become defective during the associated warranty period the contractor is only liable to repair to a value determined as follows: Original cost to Canada for painting and preservation of the underwater section of the hull, divided by three hundred sixty five (365) days and multiplied by the number of days remaining in the period. The resultant would represent the Dollar Credit due to Canada from the Contractor.
- c. The Underwater paint system, before expiration of the warranty, should be checked by divers. The Technical Authority, is to arrange the inspection and inform the Contracting Authority of any adverse results.

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hal403

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CCC No./N° CCC - FMS No/ N° VME

APPENDIX 1 to ANNEX D



Public Works and Government Services Canada

Travaux publics et Services gouvernementaux
Canada

Warranty Claim Rclamation De Garantie

Vessel Name Nom de navire	File No. N de dossier	Contract No. - N de contrat
Customer Department Ministre client	Warranty Claim Serial No. Numro de srie de rclamation de garantie	
Contractor Entrepreneur	Effect on Vessel Operations Effet sur des oprations de navire Critical Degraded Operational Non-operational	

1. Description of Complaint Description de plainte

Contact Information l'information de contact

_____ Name Nom

Tel. No. - N TI

Signature Signature

Date

2. Contractors Investigative Report Le rapport investigateur de l'entrepreneur

3. Contractors Corrective Action La modalit de reprise de l'entrepreneur

Contractors Name and Signature Nom et signature de l'entrepreneur

Date of Corrective Action - Date de modalit de reprise

Client Name and Signature - Nom et signature de client

Date

4. PWGSC Review of Warranty Claim Action Examen d'action de rclamation de garantie par TPSGC

Signature Signature

Date

5. Additional Information Renseignements supplmentaires



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CCC No./N° CCC - FMS No/ N° VME

ANNEX F
NOT USED

ANNEX G
Not used

ANNEX H
Not Used

ANNEX I**FINANCIAL BID PRESENTATION SHEET****I.1 Evaluation of Price**

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded.

a)	Known Work For work as stated in Annex A and detailed in the attached Pricing Data Sheet Annex I, Appendix 1 a FIRM PRICE of:	\$ _____
b)	Unscheduled Work Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit: 1,000 person hours X \$ _____ per hour for a PRICE of: Hours in excess of 1000 will also be charged at this rate. Bidders are to include any premiums / surcharges or fees that are applicable to the hourly rate.	\$ _____
c)	Daily Services Fees As per article I4 i) five (5) working days on drydock X \$ _____ = \$ _____ ii) two (2) non-working days on drydock X \$ _____ = \$ _____ iii) three (3) working days at berth X \$ _____ = \$ _____ iv) two (2) non-working days at berth X \$ _____ = \$ _____	\$ _____
d)	Vessel Transfer Cost As per article I5:	\$ _____
e)	EVALUATION PRICE HST or GST Excluded, [a + b + c + d]: For an EVALUATION TOTAL of :	\$ _____

I.2 Unscheduled Work

Unscheduled work arising, as authorized by the Minister, will be calculated in the following manner:

"Number of hours (to be negotiated) X your firm hourly Charge-out Labour Rate which includes Overhead and profit, plus net laid-down cost of materials to which will be added a 10% mark-up, plus Goods and Services Tax or Harmonized Sales Tax as applicable, of the total cost of

material and labour. The firm hourly Charge-out Labour Rate and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

I.2.1 Notwithstanding definitions or usage elsewhere in this document, or in the Bidders Cost Management System, when negotiating Hours for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of Related Labour Costs identified in I.2.2 will not be negotiated, but will be compensated for in accordance with I.2.2. It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.

I.2.2 Allowance for Related Labour Costs such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as Overhead for the purposes of determining the Charge-out Labour Rate entered in Table I.1 above.

I.2.3 The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. A separate labour component for the purchase and handling of materials or subcontract administration is not allowable.

I.3 Overtime Fees

Compensation for authorized overtime will be calculated in the following manner:

- a. For Known Work, the contract price plus agreed overtime hours paid at the following premium rates; or,
- b. For Unscheduled Work, agreed overtime hours at the quoted *Charge-out Labour Rate* plus the following premium rates:

For Time and one half: \$ _____ per hour; or,

For Double time \$ _____ per hour

I.4 Daily Services Fees

Daily services fees are to be provided by the Bidder and entered in the table at I.1. In the event of a delay in the performance of the Work, and if such delay is recognized and agreed upon by the Contracting Authority as being attributable to Canada. These fees will be the sole liability of Canada to the Contractor for the delay.

The fees will include administrative support, production services, quality assurance, material support, and all other resources, direct costs, overhead and consumables needed to maintain the Vessel at the Contractor's facility. Daily fees for additional days on dock shall be inclusive of layday charges. These fees are firm and not subject to any additional charges for mark-up or profit.

Ship services as indicated within services (specification item HD-02) will be paid based on unit cost as bid. The daily service fee bid in Annex I will apply to all additional days.

The number of days included in I1 are estimates for evaluation purposes only, but the rates will apply to all additional days

I.5 Vessel Transfer Costs

1. The evaluation price must include the cost for transferring the vessel from its home port to the shipyard/ship repair facility where the Work will be performed and the cost of transferring the vessel to its home port following completion of the Work, in accordance with the following:

(a) The Bidder must provide the location of the shipyard/ship repair facility where it proposes to perform the Work together with the applicable vessel transfer cost from the list provided under paragraph 2 of this clause:

Proposed shipyard/ship repair facility: _____

Applicable vessel transfer cost: _____.

(b) If the list in paragraph 2 of this clause does not provide the shipyard/ship repair location where the Bidder intends to perform the Work, then the Bidder must advise the Contracting Authority, in writing, at least 5 calendar days before the bid closing date, of its proposed location for performing the Work.

The Contracting Authority will confirm to the Bidder, in writing, at least 5 calendar days before the bid closing date, the location of the shipyard/ship repair and the applicable vessel transfer cost.

A bid that specifies a location for executing the Work which is not on the list of paragraph 2 of this clause, and for which a notification in writing has not been received by the Contracting Authority as required above, will be considered non-responsive.

2. List of shipyard/ship repair facilities and applicable vessel transfer costs Vessel:

Home port: _____

Transfer costs in the case of vessels transferred using a government delivery crew include the fuel cost at the vessel's most economical speed of transit and for unmanned refits only, crew transportation costs for the delivery crew based on the location of the vessel's home port and the shipyard/ship repair facility. Crew transportation costs do not include any members of the delivery crew who remain at the shipyard/ship repair facility in order to discharge project responsibilities related to the vessel being transferred.

Transfer costs in the case of vessels transferred unmanned by either commercial towing, railway, highway or other suitable means of transportation must be: (i) included as part of the Bidder's financial bid in the case where the Bidder is responsible for the transfer; or (ii) identified as the applicable vessel transfer cost, as given in the list below, in the case when Canada is responsible for the transfer.

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Buyer ID - Id de l'acheteur

hal403

Client Ref. No. - N° de réf. du client

F5561-13-2779

File No. - N° du dossier

HAL-3-71220

CCC No./N° CCC - FMS No/ N° VME

Vessel transfer Costs:

Company	City	Transfer Cost
AF Theriault	Methegan, NS	\$ 2,748.00
Shelburne Ship Repair	Shelburne, NS	\$ 1,811.00
LIFE	Lunenburg, NS	\$ 984.00
Abco	Lunenburg, NS	\$ 984.00
CME Marine	Sambro, NS	\$ 607.00
Aecon Fabco	Pictou, NS	\$ 3,149.00
Samson Boats	Arichat, NS	\$ 2,067.00

Solicitation No. - N° de l'invitation

F5561-132779/A

Amd. No. - N° de la modif.

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ha1403

Client Ref. No. - N° de réf. du client

F5561-13-2779

CCC No./N° CCC - FMS No/ N° VME

**Appendix 1 to Annex H
Detailed Pricing Data Sheet**

Pricing Data sheet will be provided in a separate electronic document with the bidders conference minutes.

ANNEX j REQUIRED CERTIFICATIONS

Federal Contractors Program for Employment Equity - Bid Certification By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Human Resources and Skills Development Canada (HRSDC) - Labour's website

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex j Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex j Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with such request by Canada will also render the bid non-responsive or will constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit HRSDC-Labour's website.

Date: _____ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a federally regulated employer being subject to the *Employment Equity Act*.
- A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary)

employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with HRSDC-Labour.

OR

A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to HRSDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to HRSDC-Labour.

B. Check only one of the following:

B1. The Bidder is not a Joint Venture.

OR

B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

**ANNEX K
INFORMATION REQUIRED FOR CODE OF CONDUCT CERTIFICATION**

Please provide list of names of the following entities, according to the ownership nature of the company

1. For a Corporation - each current member of the Bidder's Board of Directors;

2. For a Partnership, General Partnership or Limited Partnership - the names of all current partners;

3. For a Sole Proprietorship or an individual doing business under a firm name - the name of the sole proprietor or individual;

4. For a Joint Venture - the names of all current members of the Joint venture;

5. For an individual - the full name of the person



Fisheries and Oceans
Canada

Canadian Coast Guard

Pêches et Océans
Canada

Garde côtière canadienne

CANADIAN COAST GUARD



REFIT SPECIFICATION

CCGS SPRAY

SPECIFICATION NO. 13-S040-017-1

February 3, 2014

CLARK'S HARBOUR, NOVA SCOTIA



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GENERAL NOTES

1. On-Site Coast Guard Technical Authority (CGTA):

All the specified work, as well as all work arising, shall be completed to the satisfaction of On-site CGTA. Unless otherwise advised, this will be the Vessel Maintenance Manager (VMM) of the vessel, or his designated representative. Upon completion of each item of the specification, the CGTA shall be notified so that he/she may inspect the work prior to the complete closing up of any work. Failure to give notification does not absolve Contractor of the responsibility of providing CGTA the opportunity to inspect any item. Inspection of any item by the CGTA does not substitute for any required inspection by Transport Canada Marine Safety Branch (TCMS), Public Works and Government Services Canada (PWGSC) or Health Canada (HC).

2. Safety:

There is a safety annex attached to this specification entitled "FLEET SAFETY MANUAL REQUIREMENTS". In addition to the detailed requirements within the specification, this annex contains excerpts from the "FLEET SAFETY MANUAL", Edition 4, version 1 that are applicable to contracted refit and dry-docking situations. If Contractors do not already have copies of this reference, they will be made available upon request.

It is noted in the annex, that all contracted work shall be conducted in compliance with the requirements of the Canada Labour Code, Part 2. Potential Contractors shall include with their bids the name of their Safety Manager or Supervisor who will ensure that these requirements for workplace safety are met.

3. Sub-Contractors:

All conditions, stipulations etc. listed in the General Notes apply to any Sub-Contractors employed by the Main Contractor to carry out work on any Specification Item.

4. Schedule:

At the Pre-Refit Meeting, the successful Contractor shall provide a Production Bar Chart or Schedule showing commencement and completion dates for each item in this specification. This document shall highlight any critical dates and be capable of showing the effects of late completion date of the work package. Contractor shall provide updated Production Schedules to the CGTA and PWGSC Contracting Authority whenever the schedule is revised.

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5. Daily Service Fee:

Contractor shall allow sufficient time to complete all the 'known' work described in this specification. Contractors shall bid the total price of their estimated daily service fees, plus a unit price for adjustment purposes. Contractor shall provide sufficient personnel, materiel, and equipment resources to complete the specified work, including the allowance for arisings, within the period of the contract. Extra effort required due to Contractor's failure to maintain his production schedule will not be paid for by CCG.

6. Chemist's Certificates:

Contractor shall supply CGTA with Marine Chemist's Certificates in accordance with TCMS TP 3177E before any cleaning, painting or hot work is commenced in confined spaces or machinery compartments. Certificates shall clearly state the type of work permitted, duration of certificate and the following air test information: toxic gas level in PPM, % LEL (percentage lower explosive limit) and % O₂ (percentage oxygen). Each certificate must be signed and dated by the marine chemist or qualified person carrying out the test. All certificates shall be renewed as required by the regulations. Contractor and his sub-Contractors are advised that any work carried out in confined spaces as defined by the Canada Labour Code (CLC) and relevant provincial legislation must fully comply with all provisions therein.

Contractor and his sub-contractors are advised that any work carried out in confined and / or enclosed spaces as defined by the Canadian Labour Code Part II (CLC), the Marine Occupational Health & Safety Regulations (MOSH) and the relevant provincial legislation shall be fully complied with.

<http://www.tc.gc.ca/media/documents/marinesafety/tp3177e.pdf>

Canadian Labour Code <http://laws.justice.gc.ca/en/L-2/index.html>

MOSH <http://laws.justice.gc.ca/en/L-2/SOR-87-183/index.html>

7. Welding:

Contractor shall be currently certified by the Canadian Welding Bureau in accordance with Standard W47.1-1983 "Certification of Companies for Fusion Welding of Steel Structures," Division 1, 2.1 or 2.2. Where welding is required on aluminium superstructure CCG specification for ALUMINIUM WELDING (TP 9415E) will apply and Contractor shall be qualified to CWB 47.2 for aluminium welding. All personnel performing welding shall be approved by the Canadian Welding Bureau. All sub-contractors shall be currently certified by CWB as above + Division 3. When a sub-contractor is certified to Division 3, then the primary Contractor shall have a certified Quality Assurance Program in place that introduces and maintains proper control of the sub-contractor's performance. Any welding near bearings or electronic equipment shall have its work locally grounded. No welding shall be undertaken on the vessel without the direct permission of the CGTA.

GENERAL NOTES - PAGE 3

8. Electrical:

All electrical installations or renewals shall be in accordance with the latest editions of the following Marine electrical standards:

TP 127E - Ship Safety Electrical Standards
<http://www.tc.gc.ca/eng/marinesafety/tp-tp127-menu-263.htm>

IEEE Standard 45 - Recommended Practice for Electrical Installation on Shipboard. http://standards.ieee.org/develop/wg/45_WG.html

9. Hotwork Ventilation and Containment:

During all known work and work arisings that involve hotwork, Contractor shall ensure that all dust, debris, gas and smoke generated by the work is evacuated from the vessel by the most direct method.

Each item that involves hotwork shall have a defined zone which shall be kept sealed off from the rest of the vessel during the complete work period that involves the generation of welding gases, smoke, and grinding dust etc. These zones shall be indicated in the items contained within the known work package. All extra work arisings that involve hotwork shall have a zone determined using the same logic. The zone shall be limited to the space(s) where the hotwork is being done, boundary areas where fire watches are required, and the access routes between the zone and the exterior of the vessel for workers, welding and cutting equipment and ventilation ductwork.

In areas where occupied accommodations and or workplaces cannot be completely isolated from personal access a double sealed door (air lock) arrangement shall be erected to minimize ingress of the contaminants into occupied areas. A ventilation extraction point shall be located as near as practical to the inside door on the worksite side to reduce the egress into the air lock and subsequently the accommodations and/or workspaces.

All doorways within the affected area that are not being worked or require access for fire watch activities shall be sealed off to prevent all containments from getting in. Passageway branches that connect to the zone shall be sealed off. Contractor shall completely clean all surfaces and fabrics within a compartment that are not suitably protected.

GENERAL NOTES - PAGE 4

10. Protection:

Contractor shall provide adequate temporary protection for any equipment or areas affected by his work. Contractor shall take proper precautions to maintain in a proper state of preservation any machinery, equipment, fittings, stores or items of outfit (furnishings, linings, deck coverings, etc.) which might become damaged by exposure, movement of materials, paint, sand, grit or shot blasting, airborne particles from sand, grit or shot blasting, welding, grinding, burning, gouging and painting. Any damage shall be the responsibility of Contractor to repair or renew.

11. Auxiliary Services:

Contractor shall include in quotation the costs of any and all transportation, rigging, staging, slinging, crantage, removals, and installations of parts and equipment such as may be required to carry out work.

12. Enclosures and Heating:

Contractor shall provide all enclosures and heating required to carry out all the scheduled work, taking into account the nature of the work, the time of year the refit is, and the weather conditions for that time of year in Contractor's geographic area. Examples of where heating and enclosures could be required include but are not limited to painting, shaft withdrawal, and tank cleaning.

13. Service Conditions:

Unless specified otherwise, all components, materials and installations supplied by or carried out by Contractor shall be adequate to meet the following service conditions:

In areas that are exposed to the elements:

- outside air temperature of minus (-) 40 C to plus (+) 35 C;
- wind velocity of 50 knots;
- water temperature of minus (-) 20 C to plus (+) 30 C;
- shock loading of 2.5g horizontal, 1.5g vertical.

All new components, materials and installations within the ship shall be adequate to withstand the specified shock loading accelerations.

GENERAL NOTES - PAGE 5

14. Hotwork & Fire Watches:

Any item of work involving the use of heat in its execution requires that Contractor advises the CGTA prior to starting such heating and upon its completion. Contractor shall provide sufficient suitable fire extinguishers and a fire watch during any such heating and until the work has cooled. The fire watch shall be arranged such that all sides of surfaces being worked on are visible and accessible. Ship's extinguishers are not to be used except in an emergency. Should Contractor have to use ship's extinguishers in an emergency they are to be recharged and re-certified by a local facility, of CCG's choice, at Contractor's cost. Contractor shall provide suitable fire retardant coverings to protect wire ways, cables, equipment and structure from welding slag, splatter etc.

15. Relocations:

Any piping, manholes, parts and/or equipment requiring temporary relocation to carry out specified work, or to gain access, shall be refitted upon completion with new jointing, anti-seize compound, clamps and brackets as applicable (Contractor supply - CFM). All equipment and systems, so disturbed, shall be tested to prove correct function and fluid integrity upon completion. Defects shall be corrected at Contractor's cost. Note: It shall be Contractor's responsibility to identify, to the CGTA, equipment and systems that are to be tested to verify correct function, prior to being disturbed for required work.

16. Lighting:

Temporary lighting and/or temporary ventilation required by Contractor to carry out any item of this specification shall be supplied, installed and maintained in safe working condition by Contractor and removed on completion of the related work. Naked light bulbs or tubes shall not to be used as temporary lighting inside the vessel. All lights used in the vessel shall be supplied with approved guards.

17. Cleanup:

Contractor shall ensure that all spaces, compartments, and areas where work has been carried out, or Shipyard staff and Sub-Contractors has used for transit routes, are left in "as clean a condition as found" when the vessel commenced refit. This includes both internal and external areas of work, as well as any affected adjacent spaces outside the principle areas of work. All rags, debris, and associated garbage generated by the shipyard staff and Sub-Contractors while on board shall be removed to the garbage container(s) each day. Costs associated with the removal of dirt, debris, and garbage shall be included in Contractor's quote.

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18. Inspection:

Contractor shall be responsible for calling in the services of TCMS, and Health Canada Surveyors when and as required for survey and inspection items. All TCMS surveyors called in by Contractor shall be asked to sign-off the CGTA's Inspection Log Book for all items surveyed. Where the approval of Environment Canada (EC) or any other authority is required by law or by work contained in this specification, Contractor shall be responsible for obtaining and keeping a record of these approvals. Two (2) copies of all approvals and records shall be given to the CGTA.

19. Painting:

Unless specified otherwise, replacement and/or disturbed steelwork shall be given a minimum of two (2) coats of marine primer immediately upon completion of work. Contractor shall inform the CGTA of the area to be primed so the CGTA can advise Contractor of the suitable primer to be used. Lead-based paints shall not be used. Prior to painting, all new and disturbed steelwork shall be power tool cleaned as a minimum standard of surface preparation. Contractor shall arrange for the PWGSC Contracting Authority to be notified after the first coat of paint is fully cured so that it may be inspected prior to the application of the second coat. Failure to do so shall result in another coat being applied at Contractor's expense.

20. Materials & Tools:

All materials, unless otherwise specified, shall be supplied by Contractor. Contractor is to supply all necessary tools and equipment to perform the specified work. Special ship-specific tools, as required, will be issued by and returned to the CGTA. Contractor shall be responsible for removing the tools from their stored location aboard the vessel, and returning them and securing them in place when finished. Otherwise, ship's tools and equipment will not be available for Contractor's use.

21. Reference Material:

CGTA may have provided information in this specification and attachments (engineering drawings, pictures, etc.) as guidance information only. All drawings, pictures, dimensions, descriptions, locations, measurements, engineering values, materials, etc. listed or implied shall be verified by Contractor, prior to any work or fabrication commencing. All discrepancies shall be recorded and reported to the CGTA and Vessel Engineer as soon as possible. Any changes to the specified work, due to the above, shall be resolved between Contractor and CGTA prior to work starting.

The overhaul and installation of all machinery and equipment specified herein shall be as per the manufacturers' applicable instructions, drawings and specifications.

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22. Measurements:

All dimensional measurements shall be taken and recorded in inches. Unless otherwise specified, the dimensions shall be taken and reported in thousandths of an inch (0.000"). All measuring devices shall be described on the submitted reporting sheets. All reported dimensions shall be either typed or printed in a neat legible manner, and shall include the name of the person who took the readings. Contractor shall be responsible to ensure all testing and measurement equipment (mechanical or electronic) required to complete the specified work is calibrated and that calibration certificates for said devices shall be submitted to PWGSC Contracting Authority prior to final inspection or witnessing of tests.

All tests results, calibrations, measurements, trials and readings shall be properly tabulated, compiled and three (3) typewritten copies shall be provided; two copies to CCG Technical Services and one copy to the PWGSC Contracting Authority. All test and trials shall be performed to the satisfaction of the CGTA and TCMS Surveyor.

23. Co-operation:

During the period that the ship is in refit, members of the ship's complement, Coast Guard technical staff, and service specialists may be carrying out repairs to, maintenance of, or modifications of various ships' equipment not covered in this specification. Contractor shall not deny access to the vessel to these persons. Every effort will be taken to ensure that this Coast Guard controlled work will not interfere or conflict with that being carried out by Contractor.

24. Fire Safety Systems:

Whenever any work is being carried out involving the ship's firefighting or fire detecting system, it shall be done in such a way as to leave the vessel and all persons aboard with adequate protection against fire at all times. This may be accomplished by removal or disarming of only a portion of the system at a time, by replacement with spares while work is in progress, or by other reasonable means acceptable to CGTA.

Note: Contractor shall notify CGTA prior to deactivation and upon reactivation of fire fighting and/or fire detecting systems.

25. Smoking:

The Public Service Smoking Policy forbids smoking in Government ships in all areas inside the ship where shipyard personnel will be working. Contractor shall inform workers of this policy and ensure that it is complied with.

GENERAL NOTES - PAGE 8

26. Access:

The vessel's washroom is out of bounds to Contractor's personnel except to perform work as required by the specifications. Contractor shall ensure that no workers bring meals onboard the ship.

Additional Information

1. The CCGS SPRAY is a 52' "Arun Class" Coast Guard Search And Rescue (S.A.R.) lifeboat.
2. Vessel particulars are as follows:

Vessel Location	Clark's Harbour, Nova Scotia
Year Built	1996
Yard	Hike Metal Products Wheatley, Ont.
Length Overall	15.77 Metres
Breadth Molded	5.20 Metres
Draft	2.04 Metres
Engines	3408 Caterpillar 08RG0251 & 08RG0252
Plates 5mm and over	Aluminium 5086-H32 or 5083-
Plates under 5mm	Aluminium 5052-H32
Pipes and Extrusions	Aluminium 6061-T6 or 6351-T6
Stainless Steel (SS)	316
3. New or disturbed joints (i.e. flanged) shall be secured using new SS bolts and new stainless steel locking nuts. All stainless steel flanges to be bonded through their bolting arrangement. Dissimilar metal flanges, piping, or valves shall be fully isolated from each other using a non-conducting gasket material. When adding a dissimilar metal attachment between two similar metal flanges/piping, a bonding strip shall be attached between the two similar metals (do not bond to dissimilar metal). Bonding straps shall be made from the similar metal to which they are bonding to.
4. All disturbed gaskets are to be replaced with a new gasket made of equivalent material.
5. With the mast lowered, the vessel will have a height of 8.25 meters from the bottom of its keel to the highest point. Contractor shall be responsible for identifying a suitable lifting point, on the mast, which is capable of supporting its weight, while it is being lowered and raised. Contractor shall be responsible for any damages caused during the lifting and lowering of the mast.
6. Contractor shall take note that items in this specification are not detailed (i.e. piping, electrical, metal work, etc.) and require viewing in order to bid. It is strongly recommended that Contractor arrange a site visit to examine CCGS SPRAY, located at the Canadian Coast Guard (CCG) SAR Station in Clark's Harbour, Nova Scotia prior to submitting a bid. Bidders who do not view the vessel in order to determine the scope of work will be evaluated as if they had attended the site visit and are fully aware of the vessels existing condition prior to the refit.

H-01 SERVICES

Contractor is responsible for additional connections required when moving the vessel between dry-dock and alongside berth at their premises. Services are required for the full refit/dry-dock period.

Contractor shall quote a global price and daily rates for all services supplied to the vessel during the dry-docking period for adjustment purposes.

1. Electrical Power

- 1.1 Shore power facilities shall be supplied and installed on the vessel using a single 100 amp source with CFM cables and fittings. The vessel requires one (1): 100 amp, 240 VAC, 60 hz connection. Contractor shall quote a 1000 Kilowatt hour (KWH) flat rate for power connection for the refit period. Contractor shall provide a unit cost per day for power connection for prorated adjustments.
- 1.2 A ground cable shall be attached to the vessel's hull and Contractor shall ensure compliance as per the Transport Canada Marine Safety Bulletin – “Grounding Safety in Drydock”.

<http://www.tc.gc.ca/eng/marinesafety/bulletins-1989-06-eng.htm>

2. Gangways

- 2.1 Contractor shall supply and erect a gangway, complete with safety nets and guard rails as per Provincial regulations. Gangway to land on main deck aft and shall be illuminated during the dark hours when work is being conducted.

Reference web site;

<http://www.gov.ns.ca/lwd/healthandsafety/docs/FishSafe.pdf>

- 2.2 Any movement of the gangway for the convenience of Contractor shall be at the expense of Contractor.

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3. Garbage Removal

- 3.1 All garbage containers (vessel's waste baskets or Contractor supplied containers) shall be emptied out on a daily basis. Contractor shall remove their own daily garbage from work areas of the vessel. Cost shall be included in quote.
- 3.2 Contractor to ensure all spaces, compartments and areas of the vessel, external and internal, are left in as clean a condition as found. Removing dirt, debris, and associated materials to be included in their bid.

4. Berthing

- 4.1 Berthing and mooring facilities shall be provided in accordance to the Fleet Safety Manual as provided in the attached safety annex.
- 4.2 During refit, while not dry-docked; vessel shall be berthed at Contractor's wharf. There shall be sufficient water beneath the vessel that it shall not touch bottom at any time (upright and afloat).
- 4.3 Shipyard is responsible for all movements of the vessel during the refit period; including arrangements and costs of linehandlers, tugs, pilots, initial tying up, any movement of the vessel during refit and letting go of lines from Contractor's wharf on vessel departure from yard upon completion of refit.

5. Shelter / Enclosure

- 5.1 Contractor shall provide a protective shelter (enclosed heated building preferred) around the vessel prior to any work commencing. The shelter shall remain in place for the entire refit period. The shelter shall be heated such that the temperature at ground level shall not drop below 15°C at any point during the refit period. The shelter shall enclose all external work areas around the entire vessel including the superstructure and mast.
- 5.2 The shelter will provide full protection while work is performed during inclement weather. The shelter will also prevent unwanted debris, particles and/or materials (i.e. grinding debris, sponge blast, paint chips, etc) from leaving the immediate work area and provide Contractor with the ability to recover the above and dispose of them in an approved manner.

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6. Sea Trial

- 6.1 Bidders shall include a “2-hour” sea trial in their bid price. The vessel will be operated by CCG personell under Contractor’s direction. The aim of the sea trial shall be to prove the safe and correct function of all systems and equipment that have been worked on, added or disturbed as part of the refit.

7. Quality Control

- 7.1 Contractor shall have a proven quality assurance program in place or is presently working on a system that may meet CSA series of Quality assurance program standards. This requirement will provide the CGTA with a concise record of all pertinent information requested during the vessel refit.
- 7.2 Contractor shall provide a typewritten report of all test, trials, calibrations, measurements, etc. taken, whether identified or implied in this specification. Contractor shall compile the individual readings for each specification item into a report with copies of the workers original notes and provide a copy to the Vessel Maintenance Manager upon completion of the refit.
VMM for CCGC Spray is:
Todd Smith
(902) 426-2798
todd.smith@dfo-mpo.gc.ca
- 7.3 The final report is not meant to be a formal document, but rather a concise record of all reading taken. If the specification item does not require any readings then a simple note saying so will suffice.

H-02 - TANK & VOID SPACE INSPECTIONS

- The following spaces are due for TCMS inspection. At the time of viewing Contractors shall note all interferences (i.e. pipes, brackets, wires, paneling, etc.) impeding access to the manhole covers. Removal and re-installation of all interference items shall be included in quote.

Dwg Ref	Side	Name	Frame	Content	Div3 Ref	Duplicate Div3
1	P	Main Fuel Tank	13-16	Fuel	3L007	
2	S	Main Fuel Tank	13-16	Fuel	3L008	
3	C/L	Reserve Fuel Tank	10-12	Fuel	3L026	
4	P	Sea Bay	12-13	Sea Water	3L022	3L036
5	S	Sea Bay	12-13	Sea Water	3L023	3L037
6	C/L	Void Space (DB)	STERN-3	Polyethelyne	3L033	
7	C/L	Void Space (DB)	3-7	Polyethelyne	3L029	
8	C/L	Void Space (DB)	7-9	Empty	3L019	
9	C/L	Void Space (DB)	12-13	Empty	3L017	
10	C/L	Void Space (DB)	16-19	Polyethelyne	3L002	
11	C/L	Void Space (DB)	19-21	Polyethelyne	3L014	
12	C/L	Forepeak	21-BOW	Polyethelyne	3L001	
13	P	Void Space (DB)	9-12	Empty	3L024	
13	S	Void Space (DB)	9-12	Empty	3L025	
14	P	Void Space (DB)	7-13	Empty	3L020	
14	S	Void Space (DB)	7-13	Empty	3L021	
15	P	Void Space (DB)	13-16	Empty	3L003	
15	S	Void Space (DB)	13-16	Empty	3L004	
16	P	Void Space (DB)	16-19	Empty	3L005	
16	S	Void Space (DB)	16-19	Empty	3L006	
17	P	Void Space (DB)	3-7	Polyethelyne	3L015	
17	S	Void Space (DB)	3-7	Polyethelyne	3L016	
18	P	Void Space (Wing)	STERN-3	Polyethelyne	3L034	
18	S	Void Space (Wing)	STERN-3	Polyethelyne	3L035	
19	P	Void Space (Wing)	3-7	Polyethelyne	3L030	
19	S	Void Space (Wing)	3-7	Polyethelyne	3L031	
20	P	Void Space (Wing)	7-13	Polyethelyne	3L027	
20	S	Void Space (Wing)	7-13	Polyethelyne	3L028	
21	P	Void Space (Wing)	13-17	Polyethelyne	3L009	
21	S	Void Space (Wing)	13-17	Polyethelyne	3L010	
22	P	Void Space (Wing)	19-21	Polyethelyne	3L011	
22	S	Void Space (Wing)	19-21	Polyethelyne	3L012	
23	C/L	Fresh Water	3	Potable Water	3L032	
24	C/L	Fresh Water	21	Potable Water	3L013	
25	C/L	Void Space	9-10	Empty	3L018	
		Fire Pump Sea Bay		Sea Water	3L038	

Note: Refer to Appendix A-1; Drawing 95004-45 – Tank Capacities Plan

- Contractor shall remove and dispose of approximately 3,000 litres (total) fuel from all three (3) fuel tanks. Contractor shall provide a unit cost per litre for removal and disposal for 1379 adjustment purposes. Contractor shall measure the quantity of fuel removed upon completion of noted work.

H-02 – TANK & VOID SPACE INSPECTIONS – PAGE 2

3. Contractor shall open the spaces listed and remove strapping, dunnage bags, foam chips and gas free the internal areas. All listed spaces listed shall be certified gas free by a qualified person for entrance and hotwork when required. Three (3) copies of gas free certificate shall be supplied to CGTA before any inspection or repair work is started. Contractor shall remove all debris ashore. All work shall be completed to the satisfaction of the CGTA.
4. Contractor shall remove polystyrene chips and dunnage bags from the listed void spaces. Contractor shall identify on each bag the void spaces from which they were removed and record the total number of bags removed from individual void spaces. These bags are held in place by cargo webbing bolted to the frames of the void spaces. Some of these bags may have opened and the chips become loose in the space, these shall be recovered and resealed in the dunnage bags belonging to that void space. Contractors shall include with their bid to supply and install 6 new dunnage bags (6 mil plastic- 72 litres) in their bid.
5. Contractor shall contact the local TCMS office and request their inspector view the listed spaces listed below. All spaces shall be inspected by TCMS and viewed by the CGTA upon completion of gas freeing. Contractor shall include in the bid, cropping, replacing, and painting five 12"x12" sections of 3/8" thick aluminum hull plating. The final cost to repair any defects indicated by TCMS and approved by the CGTA shall be adjusted through PWGSC 1379 action.
6. Contractor shall inspect all manhole covers and renew missing and defective bolts. Contractor shall quote on renewing ten M8 SS bolts 32mm long with SS washers, as well as the installation of 10 CFM helicoil inserts. Blind holes shall be visually examined for damage and repaired (i.e. fill by weld and re-tapped) Final cost shall be adjusted via PWGSC 1379 action.
7. Contractor shall survey against the vessel's division 3 report from TCMS after their surveyor has given approval for all listed spaces.
8. After receiving inspection approval from TCMS, Contractor shall reinstall all dunnage bags in their proper location, as identified above in item number 4. Prior to re-installing the dunnage bags, Contractor shall remove all foreign materials (i.e. debris, metal, welding rods, etc.) from all listed spaces after all inspections have been completed. Contractor shall reinstall manhole covers to their original locations using new gasket material and new SS bolts where required.
9. Contractor shall bid on pressure testing each space, and provide a unit cost per space included in the bid package. Normal practice requires pressurizing the spaces to 1 inch of water gauge and held for fifteen minutes. Contractor shall confirm with TCMS regarding system pressure and time required for acceptance. Contractor shall issue a credit if the above work is not required.
10. Contractor shall allow time prior to sea trials for GSM fuel oil to be delivered, and tanks refilled.
11. Acceptance shall be based on TCMS approval and a functional test of the engines during sea trail to prove that the lines are free of air and the engines operate without hesitation for the period of trial.

HD-01 DOCKING / UNDOCKING

1. Contractor shall dock the vessel and allow sufficient lay days to perform both the work described in this specification as well as a margin of time to cover work arising. Contractor shall quote a unit cost per lay day. Contractor shall prepare blocks and necessary shoring to maintain true alignment of the vessel's hull and machinery throughout the dry-docking period. Upon completion of all specified work Contractor shall undock the vessel.
2. A docking plan is provided as Appendix A-2; drawing 95004-18, for reference.

Vessel Particulars:

Length O.A.	15.77 Metres
Breadth Molded	5.20 Metres
Depth Molded	2.00 Metres
Mean Draft Operating	1.32 Metres
Operating Displacement	35.5 Tonne
Fuel Capacity	3100 Litres
Electrical System	24 VDC, 12 VDC sub system 240 VAC Shore Connection

3. The vessel shall be docked so that all docking plugs, transducers, anodes and sea inlet grids are clear and accessible. Contractor shall ensure adequate clearance below the keel for performing work specified and shall advise in their bid, the minimum clearance expected. If any hull fittings are covered, Contractor is responsible for all labour and materials required for making alternative arrangements for draining tanks, removal of docking plugs, blasting/painting of hull and/or moving blocks to gain access to areas of specified work.
4. Contractor is responsible for the transfer of the vessel from its pre-docking berth or location onto its docking blocks. Likewise, Contractor is responsible for safe transfer of the vessel from blocks to berth upon re-floating of the vessel. Vessel's crew will not be available to assist with these operations nor will ships machinery. While at berth there shall be sufficient water beneath the vessel that it shall not touch bottom at any time (upright and afloat).

HD-01 – DOCKING / UNDOCKING – PAGE 2

6. Within four (4) hours of docking, cleaning of the under water hull by high pressure fresh water washing shall commence. A high pressure wash between 3000 and 5000 pounds per square inch (psi) is required to remove all marine growth. Following cleaning, a preliminary visual inspection shall be undertaken in the presence of CGTA. Prior to commencing hydro blasting, all hull mounted equipment and openings (excluding seabays) are to be fully protected. Contractor shall adhere to the Fisheries Protection Act with reference to reclaiming water used to clean the hull.
7. Contractor shall give CGTA a minimum of four (4) hours notice before adding/removing liquids from any vessel tanks. Similarly, CGTA will advise Contractor of any intended onboard fluid transfers.
8. Upon completion of all specified work and a minimum of 24 hours notice to CGTA, the vessel shall be re-floated.
9. Any contamination of the vessel's hull by materials, fluids and debris present on the dock shall be cleaned after the vessel is re-floated and clear of the dock. Cost shall be at Contractor's expense and to the satisfaction of CGTA.

HD-02 PAINTING

ARUN Class Vessel Square Areas

Wetted hull	62 m ²
Above water line to deck	65 m ²
Wheel house	43 m ²
Flying bridge	10 m ²
Main deck	42 m ²

Contractor shall prepare and apply the coating system in accordance with the manufacturer's manuals and recommendations. As part of Contractor's Q & A process, the following information shall be recorded for all painted areas:

- Provide a list of batch numbers with correspondent dates of manufacture.
- Record the quantity and type of any solvent added.
- Measure and record the ambient conditions.
- Record details of spray tips and pressures.
- WFT gauge readings to be taken on a regular basis during application.
- Using a calibrated DFT gauge, fifteen (15) measurements per 100 square ft. are to be taken and recorded. Upon agreement of consistency with CGTA, fifteen (15) measurements per 1000 square ft. are to be taken and recorded.
- All recorded information is to be typewritten and three (3) copies are to be given to CGTA.

TOPSIDE/SUPERSTRUCTURE

1. Topside area (above waterline) is to be cleaned of loose scale, salt, grease, etc. All debris recovered and disposed of in an approved manner (i.e. Provincial / Federal Regulations/Acts). Copies of invoices detailing disposal shall be provided to CGTA.

Contractor shall quote on repairing 2m² of failed superstructure / flying bridge coating and provide a unit cost/m² for painting. Contractor shall clean and prepare the superstructure and flying bridge for re-coating. These areas will here in after be referred to as "bare areas". The price will be adjusted depending on the actual amount of coating applied. Spent or flaked coating to be removed with no undue or excessive damage to the underlying coating.

2. Contractor shall note that all areas painted in black, requiring new paint, shall be coated with flat black marine enamel.

HD-02 PAINTING – PAGE 2

3. Topside coatings are as follows;

Bare area primer - Interprime 198 CPA098
Tie coat - Intersheen 665 LAB000 (White)
Top coat - Intersheen 665 LAB000 (White)

4. Contractor to quote on repairing 5m² of failed waterline to deck coating and provide a unit cost/m² for painting. Contractor shall clean and prepare the waterline to deck for re-coating. These areas will here in after be referred to as “bare areas”. Depending on the actual amount of coating applied, price will be adjusted via PWGSC 1389 action. Spent and /or flaked Intersheen coating to be removed with no undue or excessive damage to the underlying coating.
5. The total surface shall be prepared and coated as follows; all bare areas as describe above, after proper preparation (adhere to paint manufacturer’s recommendations) as witnessed and approved by CGTA, are to be coated with one coat of INTERPRIME 198 CPA098 (Grey) applied to achieve a dry film thickness (DFT) of 2.0 mils. A subsequent coat of Intersheen 579 Tie Coat LAC287 (Coast Guard Red 509-102) to follow, applied to achieve a DFT of 2.0 mils. Initial Intersheen coating shall have a slight contrast to the final coat. A final coat of Intersheen 579 LAC287 (Coast Guard Red 509-102) at a DFT of 2.0 mils, shall be applied to the entire waterline to deck area. Stripe to be prepared as above and painted with Intersheen 579 LAB000 (White) and Intersheen 579 LAY999 (Black). Name plates to be painted with Intersheen 579 LAB000 (White).
6. CGTA share supply all vessel decals, Contractor shall apply the new decals as per their original location.

UNDERWATER HULL

7. All underwater hull surfaces including rudder, sea suction inlets, overboard outlets and sea bays are to be cleaned of all loose scale, salts, and marine growth. This work is to be carried out immediately on drydocking using a high pressure, fresh water wash. Pressure washing equipment shall be adjusted to not less than 3000 psi, and no greater than 5000 psi operating pressure.
8. Contractor shall assume that the wetted hull area is fouled with shell and weed growth. All such surface contaminants and spent antifoulant coating shall be removed with no undue or excessive damage to the underlying coating. Copies of invoices, detailing disposal, shall be provided to CGTA and PWGSC contracting officer.

HD-02 PAINTING – PAGE 3

9. It is estimated that 25 m² of the underwater hull-coating system has failed. These areas will here in after be referred to as “bare areas”. All bare hull is to be solvent cleaned SSPC-SP-1 and surface to be etched chemically with C-prep B10-degreaser or suitable substitution. Edges to be feathered back (smooth finish) to sound existing coating. CGTA shall witness the point at which sound existing coating is obtained. If satisfactory feathering cannot be achieved by solvent cleaning and /or chemical etching, feathering is to be completed by other suitable means. The end result is to be tight and sound existing coating with no loose or lifting material around periphery of bare areas.
10. All bare areas, after proper preparation as witnessed by CGTA, are to be coated with one coat of Intershield 300ENA300/A (Bronze) applied at 5.9 mils dry (9.8 mils wet). This is to be followed by one coat of Tie Coat Intergard 263 FAJ034/A (Light Grey) applied at 5.0 mils dry (8.8 mils wet) over the entire wetted hull. After coating has properly set (“thumb print soft), two coats of Trilux II (Red) Top Coat shall be applied at 2.0 mils dry (3.9 wet) each, to the wetted hull area. Initial Trilux II coating shall have a slight contrast to the final coat. Contractor shall paint all draft marks white. Dry coat thicknesses are cumulative. Contractor shall adhere to the manufacturer’s specifications and recommendations for applying the above coatings.
11. Inside of sea bays (sea wells) and underwater grids are to be treated as per underwater hull.
12. Contractor shall plug all deck openings and discharges as well as taking other measures necessary to prevent any liquids from contaminating areas being prepared or coated. Contractor shall also take measures to ensure no damage, unnecessary cleaning or any repair results from either the hull preparation process or coating applications. Measures are also to be taken to ensure that surfaces and equipment other than those specified are not coated by over spray and that any inlets or discharges in the shell will not be blocked by the coating.
13. Deck machinery and other equipment susceptible to damage by coating material are to be protected. All portholes, hull doors, freeing ports, hull openings, anodes, transducers, propeller and shaft and rudder stocks are to be covered by suitable materials to prevent damage or entry of foreign materials when sandblasting, grinding or painting is in progress.

HD-02 PAINTING – PAGE 4

DECKING

14. Contractor shall quote on renewing 5 m² of coating with, Contractor supplied, Non skid Amercoat 138 (formally Devgrip 138). Cost shall include, blasting, priming, cleaning, materials, consumables, etc. Copies of invoices detailing paint disposal shall be provided to CGTA.
15. Contractor shall strictly adhere to the manufactures specification sheets in relation to storage, preparation, application, etc. of the paint system described in this specification. Any requirement for variance from manufacturer's instructions is to be approved by CGTA prior to proceeding. Thinning of the coatings specified is not normally required and/or not recommended. Any requirement to thin these coatings is to be done so, only in the presence of the product manufacturer's representative. Arranging for, and any and all costs associated with having coating manufacturer's representative on sight shall be the responsibility of Contractor.

NOTE TO CONTRACTOR:

Applicable to all coating systems within this specification;

International paints (existing coatings) shall be used except where Ameron Non Skid coating is addressed in section #16 or approval for an alternative coating is obtained from CGTA in writing. Contractor is to strictly adhere to the manufacturer's instructions in regard to the application of each coating with relation to humidity, temperature, mixing and application.

HD-03 - PROPELLER SHAFTS & BEARINGS SURVEY

1. Contractor shall contact the local TCMS office and arrange for their surveyor to inspect the two propulsion shafts, two stern tube bearings and two strut bearings as per the vessels Division 3 inspection report.
2. Contractor shall erect the necessary staging, rigging and rigging points for withdrawing the port and starboard propulsion shafts and propellers and reinstallation of both propulsion shafts and propellers upon completion of this specification item. Upon completion of specified work, Contractor shall remove all staging, rigging and rigging points. Contractor is responsible for all removals and reinstallations pertaining to shaft surveys.
3. Contractor shall disconnect both shafts from their respective propellers, rope cutters, and drive saver couplings. Each removed item is to be clearly labelled to ensure correct re-installation. Contractor shall remove port and starboard shafts from the vessel and transport to a facility where they can be placed in a lathe. Contractor shall provide a copy of original invoices for work performed outside their facility to the PWGSC contracting officer.
4. Contractor shall check each shaft for trueness and record two deflection measurements, 90° apart, starting at center, spaced at 16" intervals along the shaft. Contractor shall record all readings with a pictorial diagram indicating the location, position and value for each reading. Contractor shall provide a copy of their findings to the CGTA and TCMS surveyor. Additional work identified by TCMS as a result of Contractor findings shall be through PWGSC 1379 action. Upon completion of this specification item Contractor shall seek TCMS approval for both shafts and request a credit for four-year survey.
5. Upon removal of both shafts Contractor shall check the port and starboard bearings for wear as per TCMS requirements. Contractor shall perform this work as soon as possible when the vessel is in dry dock. Contractor shall record bearing wear readings with a pictorial diagram indicating the location, position and numerical value of their findings as per TCMS requirements. A copy of this record shall be given to the TCMS Surveyor and CGTA.

HD-03 – PROPELLER SHAFTS & BEARINGS – PAGE 2

6. Contractor shall quote on the removal of the stern tube and strut bearings, four in total. Contractor shall quote on installing four new GFM bearings, one per stern tube and one per strut. If the original bearings are determined to require replacement, contractor shall machine each of the four bearing as per manufacturer's requirements. Contractor shall provide the facility and dry ice required to shrink fit the bearings after machining. Contractor shall verify all measurements prior to machining and installing the new bearings. Completion of work shall be to satisfaction of TCMS. All measurements shall be recorded and a copy given to CGTA. Contractor shall issue a credit for work or percentage of work not being carried out with adjustments done through PWGSC 1379 action.
7. Contractor shall re-install both shafts and reconnect the shafts to their original drive saver couplings upon completion of the specified work and after TCMS approval. Contractor shall reinstall both propellers upon completion of paragraph 4 above.
8. Contractor shall remove the existing packing gland material from both propulsion shaft stuffing boxes. Contractor shall supply and install new Teflon impregnated packing gland materials for both shafts and adjust as per normal operating procedure. Contractor shall verify the actual size and length required prior to ordering. Contractor shall quote a price for supplying and installing 12 feet of ½ inch Chesterton 329 stern-Lon packing material. Gland is to be left hand tight until vessel is in water, to prevent over tightening the new packing gland. Actual quantity and size used shall be adjusted through PWGSC 1379 action.
9. Acceptance shall be based on no visible or physical vibration through all RPM ranges from start to maximum load and both packing glands not leaking seawater into the vessel greater than what is acceptable to CGTA.

HD-04 - STORM VALVES AND SEA CONNECTIONS - SURVEY

- At the time of viewing, Contractor shall note the locations and conditions of all valves, associated hardware and interference items which may hinder access and disassembly of each valve being inspected / overhauled. Bid cost shall include all requirements to deal with visible interference items and corroded hardware. Any requirement to move or disturb an interference item, as well as returning said items to original condition, in good working order (using new gaskets and hardware), shall be Contractor's responsibility and cost to perform this work shall be included in their bid.
- The following valves shall be removed and prepared for inspection by TCMS surveyor.

Name	Frame	Side	Size	Material	Field #	Duplicate?
Forward main engine sea water valve	13	P&S	2.5"		3LL0110 01	
Forward main engine deicing seabay valve	13	P&S			3LL110 02	
Deicing overboard valve		P&S				
Deicing butterfly valve		P&S				
wheelhouse scupper valve		P&S				
Bilge discharge overboard valve	13	P&S			3LL090 02	3LL110 05
Engine room bilge suction valve		P&S				
Main engine bilge check valve		P&S				
Forward engine room toilet valve	21	S			3LL090 01	
Fire main relief valve						
Fire pump discharge hydrant valve						
Emergency Bilge & Fire Suction valve						
Aft fire pump sea suction valve	8	P			3LL110 03	
Aft fire pump discharge overboard valve	9	P			3LL090 03	3LL110 06

- All valves shall be removed (unbolted from their flanged connections), laid out and clearly labeled (as per application) at all times. Valves with a pipe diameter of greater than 1 ½" shall be opened, cleaned, descaled (marine growth chipped/scraped), and all valve seats wiped clean for inspection. Valve seats shall be tested to confirm full contact area. Where necessary, a machinist is to lap valve seats and retest to prove full contact area. Once fully prepared and laid out for inspection, Contractor shall notify the TCMS surveyor, CGTA and PWGSC contracting officer. Contractor shall seek TCMS surveyor approval for all valves (with field numbers) listed above.

HD-04 – STORM VALVES AND SEA CONNECTIONS – PAGE 2

5. Viewing by CGTA shall not substitute for TCMS surveyor. Contractor shall allow in their bid to machine up to 3 valves above 1 ½” diameter, and replace all valves of 1 ½” diameter and below. Contractor shall provide labor pricing for repair service to valves, and final cost shall be adjusted via PWGSC 1379 action.
6. Upon approval and completion of identified repairs, Contractor shall test and issue a certificate for each valve. Contractor shall verify test compliance with applicable regulations, operational requirements and notify TCMS for re-inspection.
7. Upon TCMS surveyor and CGTA approvals, all valves shall be fitted, repacked, re-installed in their original location using new gasket material and function tested by CGTA during sea trial.

HD-05 – UNDERWATER HULL INSPECTION - SURVEY

1. Vessel’s underwater hull is to be inspected by TCMS surveyor as required by vessel’s division 3 report, item 3LL040.
2. Contractor shall perform this inspection in conjunction with void and tank inspections, item H-02.
3. Any repairs required shall be completed via PWGSC 1379 action.
4. Contractor shall request TCMS credit on vessels division 3 report upon completing this task.

E-01 - STEERING GEAR INSPECTION - SURVEY

- E-01-1 Contractor shall contact the local TCMS office and provide 48 hours' notice to arrange for their inspector to inspect two rudders, rudder shafts and three shaft bearings as per the vessels Division 3 inspection report.
- E-01-2 Contractor shall erect all necessary staging and rigging / rigging points necessary to work on both rudders. Upon completion of work identified below, Contractor shall remove all staging and rigging.
- E-01-3 Contractor shall visually inspect the port and starboard rudders for damage (dents, chips, paint flaking, etc.) in the presence of CGTA prior to any repair work commencing. Contractor is responsible for all removals pertaining to the rudder repairs. Repairs to the rudders shall be through PWGSC 1379 action.
- E-01-4 Contractor shall remove both rudders at their jumping collar. Contractor in consultation with the CGTA and TCMS Surveyor shall determine whether or not to remove the Thordon bearings, based on the wear down reading and condition. Contractor shall provide a cost in their quote for the Thordon bearing removals and installation of CG supplied Thordon bearings. Contractor shall follow manufacturer's recommendation for installation and verify all measurements before installing the new bearings. Completion of work is to be to the satisfaction of TCMS surveyor and CGTA.

1 Upper shaft bearing
Dommel (2 ¾ inch x 3 ⅜ inch) press fit with housing

2 Rudder trunk bearing
Hornad (3 ¼ inch x 4 ¼ inch) secured in trunk

THORDON BEARINGS :

BEARINGS MACHINED TO FOLLOWING SPECIFICATIONS :

CODE NAME	SIZE, I.D. x O.D.	MACHINED SIZE, I.D. x O.D.	LENGTH
SXL (TOP)	2-3/4" x 3-3/8"	2.804"/2.809" x 3.394"/3.399"	100mm
SXL (BTM)	3-1/4" x 4-1/4"	3.315"/3.320" x 4.273"/4.278"	160mm

E-01 - STEERING GEAR INSPECTION – PAGE 2

- E-01-5 Contractor shall clearly identify each rudder's fitted bolts and nuts with respect to their original location prior to removal. Contractor shall prepare (cleaning, blasting, etching) both rudders for painting as per HD-03 Painting for Underwater Hull. Upon completion of all work identified in this section Contractor shall re-install both rudders. All fitted bolts and nuts shall be reinstalled to their original locations upon re-assembly. Contractor shall supply and spot weld SS locking wire across the 4 sets of 3 fitted bolts to prevent the bolts from loosening after re-installation.
- E-01-6 All hydraulic components of the steering system are to be inspected and repaired where necessary. Presently, there is a leaking 3/8" stainless steel fitting, which shall be repaired. Additional repairs to the hydraulic system shall be through PWGSC 1379 action.
- E-01-7 Acceptance shall be based on the approval of TCMS Surveyor and satisfaction of CGTA.



Figure E-01-Fig. 1 Extended spindle for emergency steering.

E-01 - STEERING GEAR INSPECTION – PAGE 3



Figure E-01-Fig. 2 Rudders with view of rudder stocks.

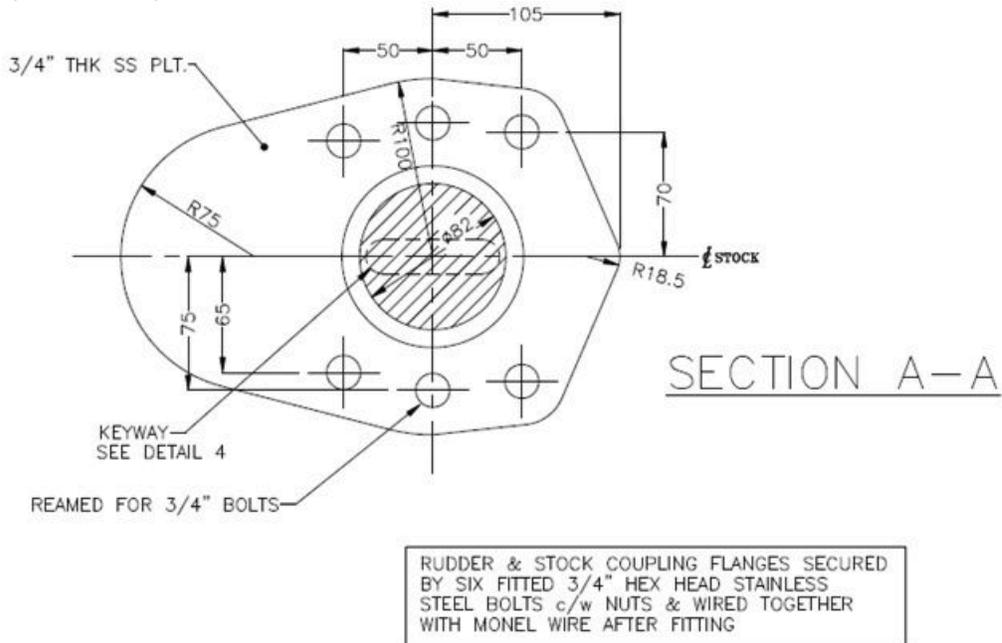
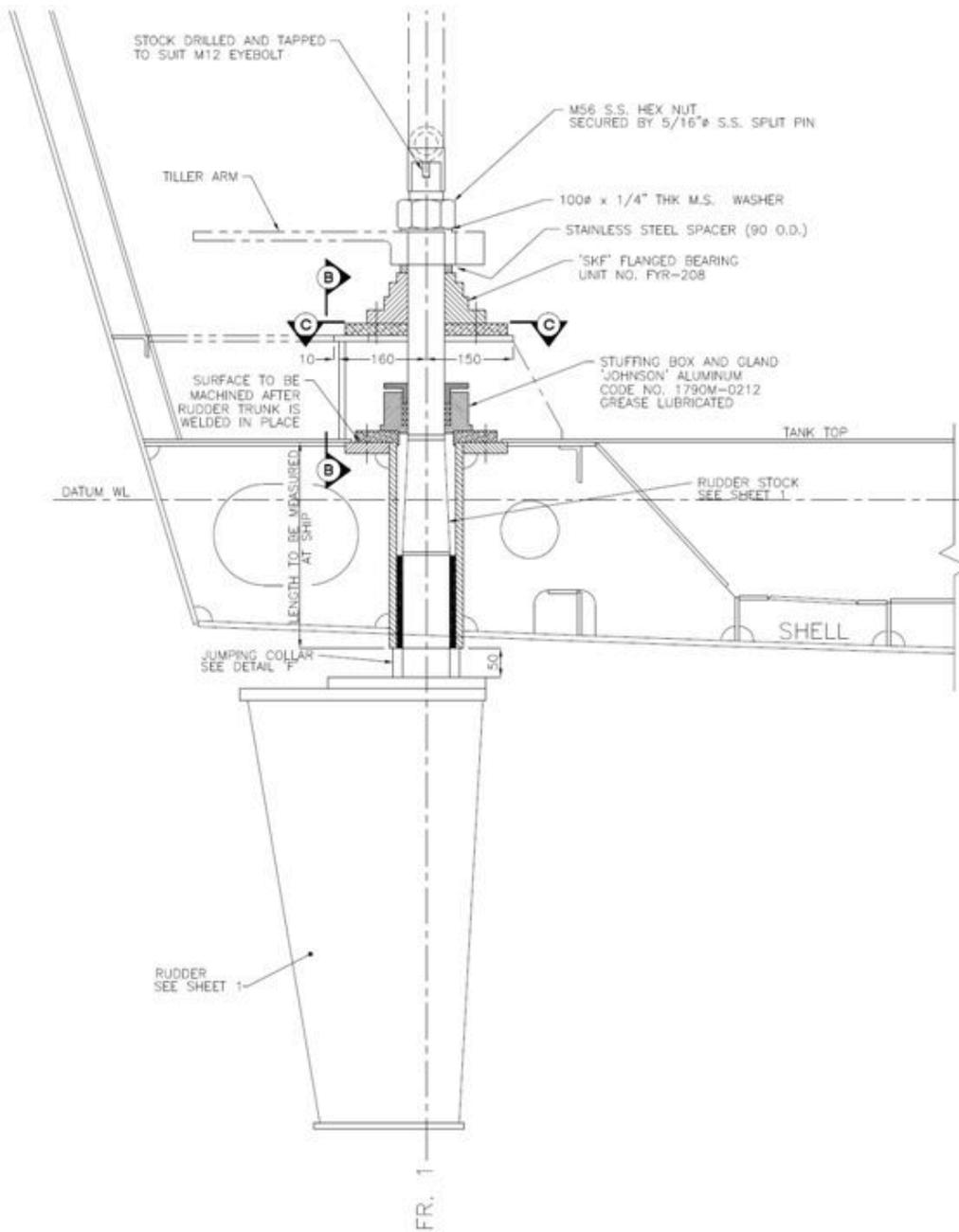


Figure E-01-Fig. 3 – Rudder jumping collar flange drawing

E-01 - STEERING GEAR INSPECTION – PAGE 4



ELEVATION

PORT SIDE LOOKING TO PORT
STBD SIDE SIMILAR EXCEPT AS NOTED

Figure E-01-Fig. 4 Rudder Drawing – Elevation

E-01 - STEERING GEAR INSPECTION – PAGE 5

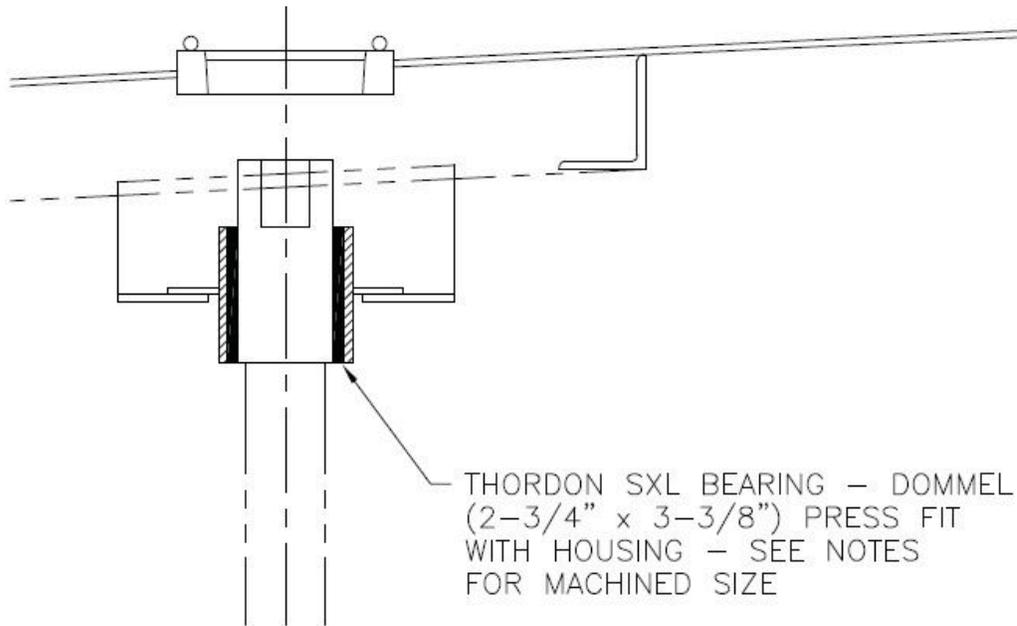


Figure E-01-Fig. 5 Rudder Drawing – Upper Bearing

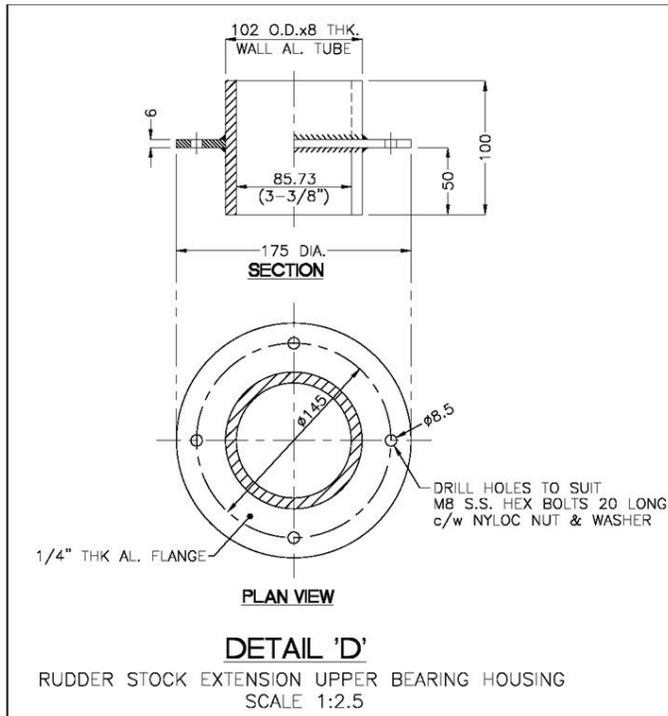


Figure E-01-6 Rudder Drawing – Upper Bearing Detail

E-01 - STEERING GEAR INSPECTION – PAGE 6

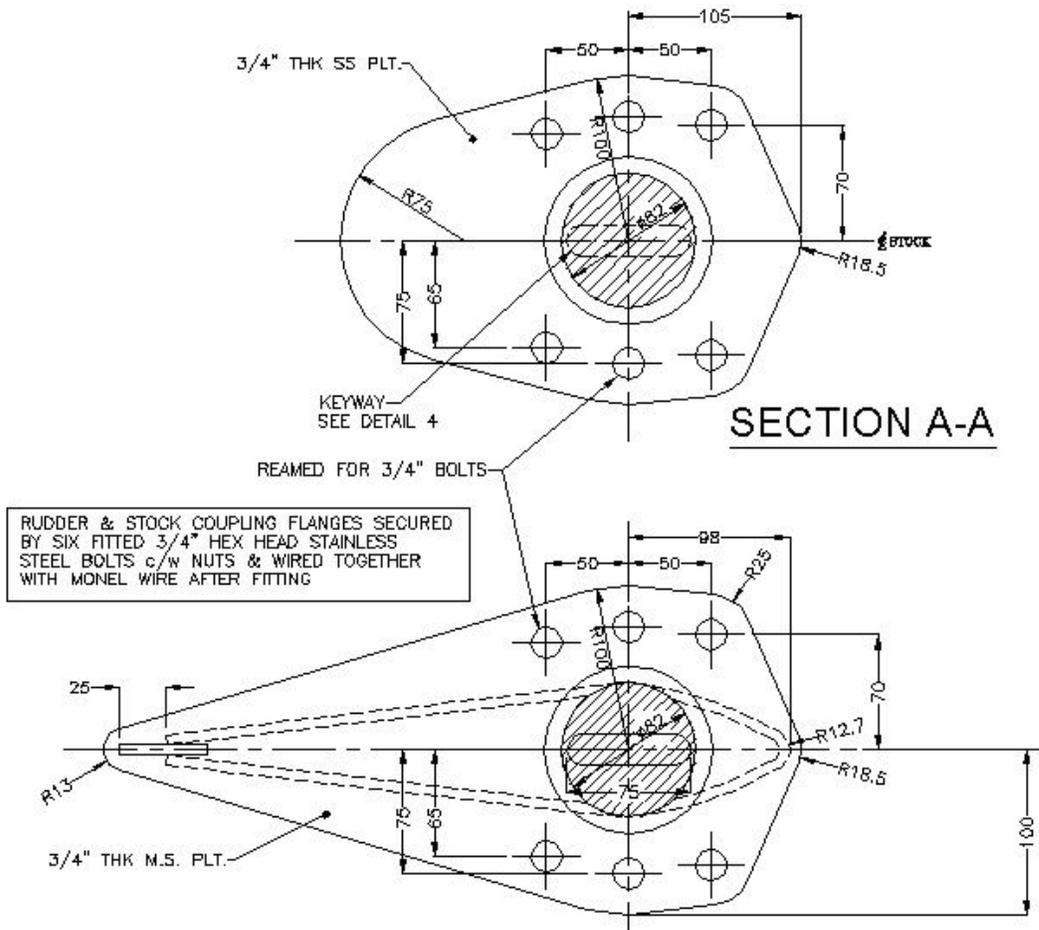


Figure E-01-Fig. 7 - Rudder connection drawing

E-02 – MAIN ENGINE SERVICE

1. Contractor shall contact local authorized CAT engine service rep and arrange for service to the two main engines.
2. Contractor shall fully drain the coolant and oil systems of each of the two engines. Contractor is responsible for disposal of all fluids removed.
3. Subcontractor is to investigate and repair oil/coolant cross contamination issue on each engine, as evident on oil analysis reports.
4. After completion of repairs, Contractor is to refill engines with new GSM filters, oil and coolant.
5. Subcontractor is to perform PAR testing of engines, and provide report of all findings. After completion of PAR testing, oil and coolant samples are to be taken, and sent to Caterpillar SOS Services for analysis.

E-03 – ANCHORS AND CHAIN INSPECTION -SURVEY

1. The vessel's anchors, windlass, and chain are to be cleaned and laid out for inspection by TCMS Surveyor, as per TCMS division 3 requirements, item 3LL120 and 3LL140.
2. Contractor shall contact and schedule TCMS surveyor for inspection of the above items.
3. Any repairs required by TCMS surveyor will be performed via PWGSC 1379 action.
4. Upon completion of this task, Contractor shall request TCMS credit on vessel's division 3 report.

E-04 – FIREFIGHTING EQUIPMENT - SURVEY

1. The fire detection and smothering system is due for re-certification as per vessel's division 3 report; item 3N0090.
2. Contractor shall provide a certified agent to service and certify all of fire detection and extinguishing equipment aboard the vessel, where required by division 3.
3. Upon completion of this work, a copy of the certificate shall be provided to CGTA and TCMS for credit on the vessel's division 3.

APPENDIX

A-1 – Tank Capacities Plan, Drawing # 95004-45



Adobe Acrobat
Document

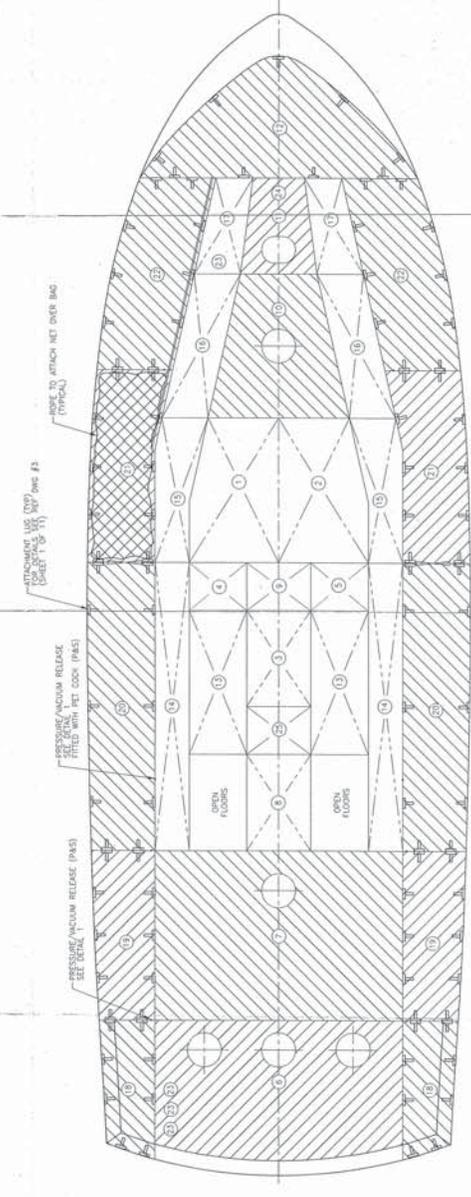
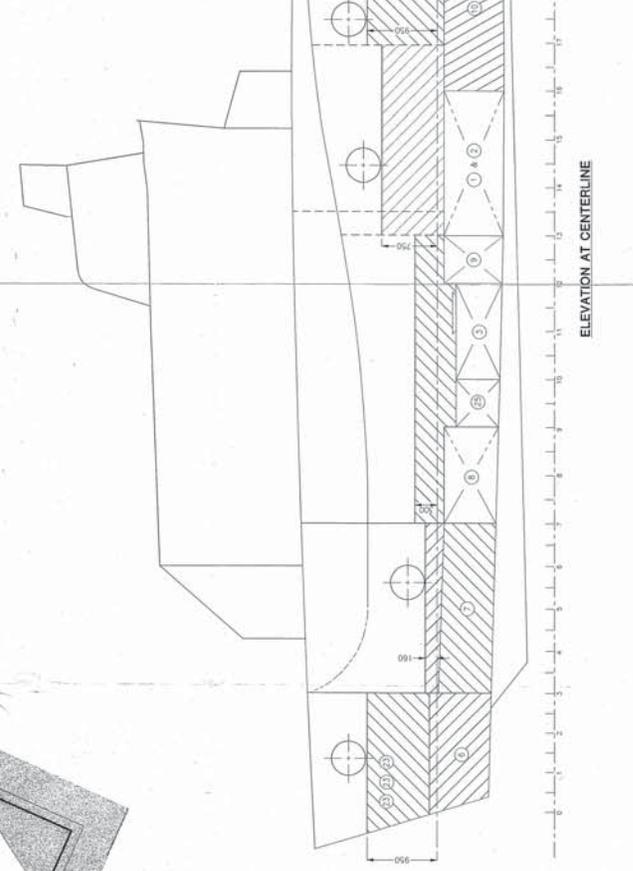
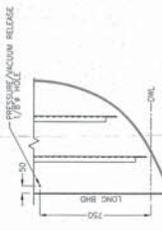
A-2 – Docking Plan, Drawing # 95004-18



Adobe Acrobat
Document

10	REFERENCES DRAWING	55001-1
11	LINKS PLAN	55001-2
12	PROFILES AND DECK	55001-3
13	WATERLOOSE STRUCTURE	55001-8
14	PLATING	55001-10
15	PLATING	55001-11
16	PLATING	55001-12
17	PLATING	55001-13
18	PLATING	55001-14
19	PLATING	55001-15
20	PLATING	55001-16
21	PLATING	55001-17
22	PLATING	55001-18
23	PLATING	55001-19

NO.	COMPARTMENT	CAPACITY (LITERS)	LOCATION	STATUS	REMARKS
1	MAIN FUEL OIL	1228	1070	11-18	FILLED WITH FUEL
2	MAIN FUEL OIL	1228	1070	11-18	FILLED WITH FUEL
3	RESERVE FUEL OIL CENTER	576	500	10-12	FILLED WITH FUEL
4	SEA BAY PORT	---	---	12-13	EMPTY
5	SEA BAY STBD	---	---	12-13	EMPTY
6	VOID SPACE	---	---	12-13	FILLED WITH POLYETHYLENE
7	VOID SPACE CENTER	---	---	13-17	FILLED WITH POLYETHYLENE
8	VOID SPACE CENTER	---	---	7-9	EMPTY
9	VOID SPACE CENTER	---	---	12-13	EMPTY
10	VOID SPACE CENTER	---	---	16-19	FILLED WITH POLYETHYLENE
11	VOID SPACE CENTER	---	---	16-19	FILLED WITH POLYETHYLENE
12	FOREPEAK	---	---	21-22M	FILLED WITH POLYETHYLENE
13	VOID SPACE	---	---	2-3	EMPTY
14	VOID SPACE	---	---	7-13	EMPTY
15	VOID SPACE	---	---	13-18	EMPTY
16	VOID SPACE	---	---	14-19	EMPTY
17	VOID SPACE	---	---	19-21	EMPTY
18	VOID SPACE	---	---	19-21	FILLED WITH POLYETHYLENE
19	VOID SPACE	---	---	3-7	FILLED WITH POLYETHYLENE
20	VOID SPACE	---	---	10-12	FILLED WITH POLYETHYLENE
21	VOID SPACE	---	---	13-17	FILLED WITH POLYETHYLENE
22	VOID SPACE	---	---	16-19	FILLED WITH POLYETHYLENE
23	FRESH WATER	---	---	3-21	PORTABLE WATER
24	SEWAGE	---	---	20-21	PORTABLE WATER
25	VOID SPACE CENTER	---	---	16-19	EMPTY



NOTES:

1. SPACES FITTED WITH ATTACHMENT LUGS TO BE FITTED WITH POLYETHYLENE BAGS.
2. POLYETHYLENE BAGS TO BE SEALED WHEN
3. ATTACHMENT LUGS TO BE FITTED 300mm BELOW TOP OF POLYETHYLENE BAGS EXCEPT AT TANK AS POSSIBLE.
4. CARGO WEARING SURFACES SEALED TO VESSEL'S STRUCTURE BY STAMP AND SET TO BE PROVIDED POLYETHYLENE BAGS TO BE PROVIDED EACH SPACE.

EYE MARINE CONSULTANTS
 Durrant & Co. Ltd.
 Project: 'MIRIN CLASS LIFEBOAT'
 Client: IHS METAL PRODUCTS
 Title: TANK CAPACITIES PLAN AND BOWHOUSING MATERIAL LAYOUT
 Scale: A1:5
 Client Approval: 13 Dec 98
 C.C.C. Approval: 18 Dec 98
 Classification Society Approval: 18 Dec 98
 Drawing No.: 55001-19
 Rev. No.: 2

No.	Reference Drawing	Drawing No.
1.	LINES PLAN	95004-1
2.	CONSTRUCTION DETAILS	95004-2
3.	CONSTRUCTION DETAILS	95004-3
4.	WHEELHOUSE STRUCTURE	95004-4
5.	WHEELHOUSE STRUCTURE	95004-5
6.	WHEELHOUSE STRUCTURE	95004-6
7.	WHEELHOUSE STRUCTURE	95004-7
8.	WHEELHOUSE STRUCTURE	95004-8
9.	WHEELHOUSE STRUCTURE	95004-9
10.	WHEELHOUSE STRUCTURE	95004-10
11.	WHEELHOUSE STRUCTURE	95004-11
12.	WHEELHOUSE STRUCTURE	95004-12
13.	WHEELHOUSE STRUCTURE	95004-13
14.	WHEELHOUSE STRUCTURE	95004-14
15.	WHEELHOUSE STRUCTURE	95004-15
16.	WHEELHOUSE STRUCTURE	95004-16
17.	WHEELHOUSE STRUCTURE	95004-17
18.	WHEELHOUSE STRUCTURE	95004-18
19.	WHEELHOUSE STRUCTURE	95004-19
20.	WHEELHOUSE STRUCTURE	95004-20

PRINCIPAL PARTICULARS

LENGTH OVERALL	15.773m
LENGTH BETWEEN PERPENDICULARS	14.020m
BEAM, MOLDED	5.206m
DEPTH, MOLDED	2.045m
DRAFT	1.366m
COMPLIMENT	5
SPEED	18 knots
SURVIVORS	30

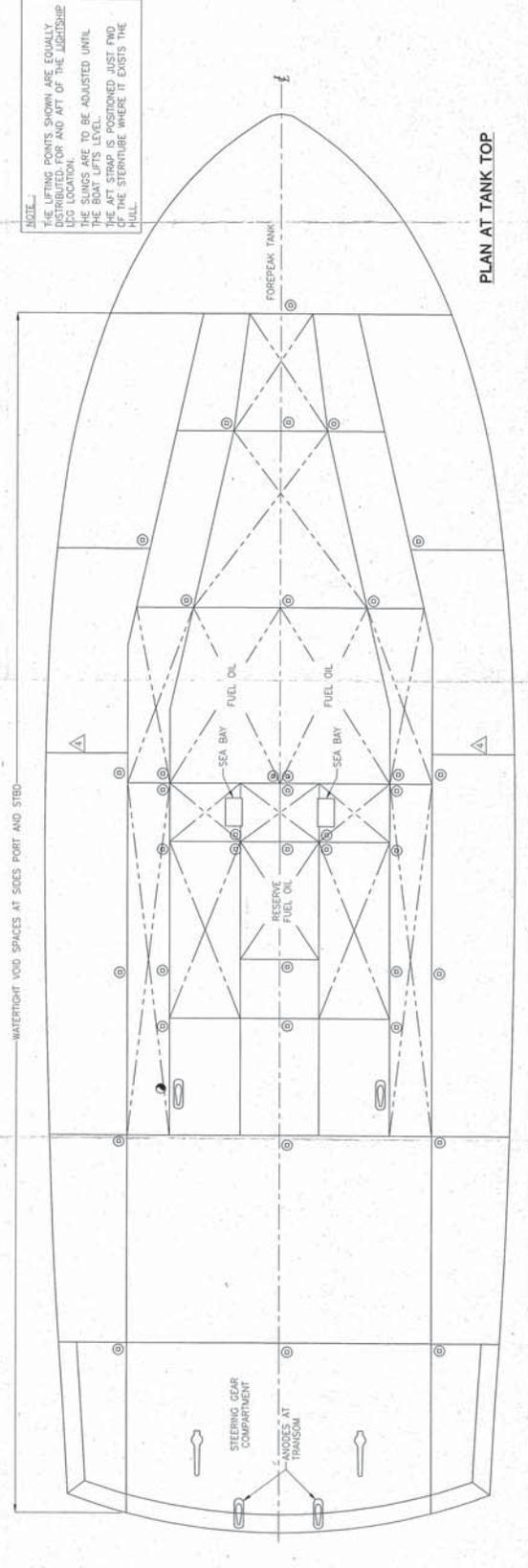
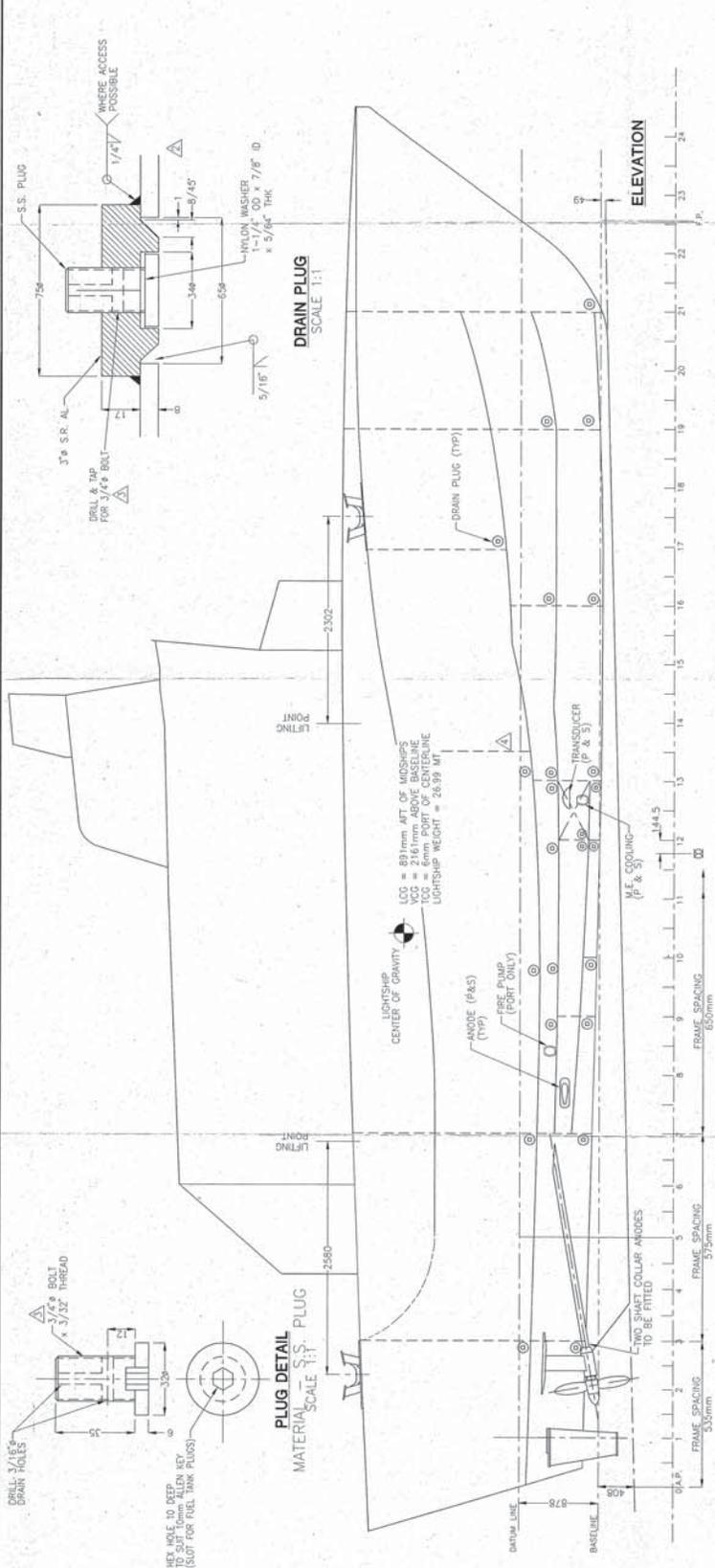
1.	IS LIFTED	34 APR 88
2.	IS LIFTED	34 APR 88
3.	IS LIFTED	34 APR 88
4.	IS LIFTED	34 APR 88
5.	IS LIFTED	34 APR 88
6.	IS LIFTED	34 APR 88
7.	IS LIFTED	34 APR 88
8.	IS LIFTED	34 APR 88
9.	IS LIFTED	34 APR 88
10.	IS LIFTED	34 APR 88
11.	IS LIFTED	34 APR 88
12.	IS LIFTED	34 APR 88
13.	IS LIFTED	34 APR 88
14.	IS LIFTED	34 APR 88
15.	IS LIFTED	34 APR 88
16.	IS LIFTED	34 APR 88
17.	IS LIFTED	34 APR 88
18.	IS LIFTED	34 APR 88
19.	IS LIFTED	34 APR 88
20.	IS LIFTED	34 APR 88

EYE. MARINE CONSULTANTS
 200 South St.
 Boston, MA 02111
 Tel: 617-452-1111
 Fax: 617-452-1112
 E-Mail: emc@eye-marine.com
 Website: www.eye-marine.com

ARJUN CLASS LIFEBOAT
 Client: H&K METAL PRODUCTS
 Title: DOCKING PLAN

Scale: 1:25 U.N.D.
 Date: 21 NOV 05
 Client Approval: [Signature]
 E.C.G. Approval: [Signature]
 Classification Society Approval: [Signature]

Drawn	G. PEET	31 OCT 05
Checked	T. THOMPSON	
Project No.	95004	Sheet 1
Drawn No.	95004-1	of 1
Rev. No.	95004-18	



Source

Page 28

THORDON BEARINGS:

BEARINGS MACHINED TO FOLLOWING SPECIFICATIONS:

CODE NAME

SXL (TOP)

SXL (BTM)

SIZE, I.D. x O.D.

MACHINED SIZE, I.D. x O.D.

LENGTH

100mm

160mm

Figure E-01-Fig. 3

¾" THK SS PLT.

STOCK

KEYWAY SEE DETAIL 4

REAMED FOR ¾" BOLTS

SECTION A-A

RUDDER & STOCK COUPLING FLANGES

SECURED BY SIX FITTED ¾" HEX HEAD

STAINLESS STEEL BOLTS c/w NUTS &

WIRED TOGETHER WITH MONEL WIRE

AFTER FITTING

Figure E-01-Fig. 4

STOCK DRILLED AND TAPPED TO SUIT

M12 EYEBOLT

TILLER ARM

M56 S.S. HEX NUT SECURED BY 5/16" Ø

S.S. SPLIT PIN

100Ø x ¼" THK M.S. WASHER

STAINLESS STEEL SPACER (90 O.D.)

'SFK' FLANGED BEARING UNIT NO. FYR-208

SURFACE TO BE MACHINED AFTER

Target

Page 28

PALIERs THORDON :

PALIERs USINÉS CONFORMÉMENT AUX EXIGENCES SUIVANTES :

NOM DE CODE

SXL (SUPÉRIEUR)

SXL (INFÉRIEUR)

DIMENSION, DIA. INT. x DIA. EXT.

DIMENSIONS USINÉES, D. INT. x D. EXT.

LONGUEUR

100 mm

160 mm

Figure E-01 - Fig. 3

PLAQUE EN INOX DE ¾" D'ÉPAISSEUR MÈCHE

CHEMIN DE CLÉ VOIR DÉTAIL 4

ALÉSÉ POUR BOULONS DE ¾"

COUPE A-A

GOVERNAIL ET TOURTEAUX

D'ACCOUPEMENT DE LA MÈCHE FIXÉS

À L'AIDE DE SIX BOULONS À TÊTE

HEXAGONALE EN INOX, ALÉSAGE ¾"

AVEC ÉCROUS, RELIÉS PAR UN FIL EN

MONEL À LA SUITE DE

L'INSTALLATION.

Figure E-01 - Fig. 4

MÈCHE PERCÉE ET TARAUDÉE POUR

CONVENIR AU BOULON À OEIL M12

ALLONGE DE BARRE

ÉCROU HEXAGONAL M56 EN INOX FIXÉ

PAR GOUPILLE FENDUE EN INOX DE

5/16 po de dia.

RONDELLE ACIER DOUX DE 100 Ø x ¼ po

D'ÉPAISSEUR

CALE D'ESPACEMENT EN INOX (90 DIA.

EXT.)

ROULEMENT À COLLERETTE SKF

N^o FYR-208

SURFACE À USINER APRÈS SOUDAGE

RUDDER TRUNK IS WELDED IN PLACE
STUFFING BOX AND CLAND 'JOHNSON'
ALUMINUM CODE NO. 1790M-0212
CREASE LUBRICATED
TANK TOP
DATUM WL
LENGTH TO BE MEASURED AT SHIP
RUDDER STOCK SEE SHEET 1

SHELL
JUMPING COLLAR SEE DETAIL F
RUDDER SEE SHEET 1
FR. 1

ELEVATION

PORT SIDE LOOKING TO PORT STBD
SIDE SIMILAR EXCEPT AS NOTED

Figure E-01-Fig. 5

THORDON SXL BEARING – DOMMEL (2-
3/4" x 3-3/8") PRESS FIT WITH HOUSING –
SEE NOTES FOR MACHINED SIZE

Figure E-01-6

102 O.D.x8 THK.
WALLA L. TUBE
175 DIA.

SECTION

¼" THK AL. FLANGE
DRILL HOLES TO SUIT M8 S.S. HEX
BOLTS 20 LONG c/w NYLOC NUT &
WASHER

PLAN VIEW

DETAIL 'D'

RUDDER STOCK EXTENSION UPPER
BEARING HOUSING

SCALE 1:2.5

EN PLACE DE LA JAUMIÈRE
BOÎTE À GARNITURE ET FOULOIR
JOHNSON ALUMINUM N^o DE CODE
1790M-0212 LUBRIFIÉS À LA GRAISSE
DESSUS DE RÉSERVOIR
PLAN DE RÉFÉRENCE WL
LONGUEUR MESURÉE SUR LE NAVIRE
MÈCHE DE GOUVERNAIL (VOIR
FEUILLET 1)
COQUE
BRIDE DE TOURTEAU (VOIR DÉTAIL F)
GOUVERNAIL (VOIR FEUILLET 1)
MEMBRURE 1

ÉLEVATION

CÔTÉ BÂBORD VUE SUR LE CÔTÉ
BÂBORD CÔTÉ TRIBORD SEMBLABLE
SAUF INDICATIONS CONTRAIRES

Figure E-01 - Fig. 5

PALIER THORDON SXL – AJUSTEMENT
SERRÉ DU DOMMEL (2-3/4" x 3-3/8")
DANS SON LOGEMENT (VOIR
REMARQUES POUR LES DIMENSIONS
D'USINAGE)

Figure E-01-6

102 DIA. EXT. X 8 D'ÉPAISSEUR
TUBE D'ALU. À PAROI DE
175 DIA.

VUE EN COUPE

BRIDE EN ALU. DE ¼ po D'ÉPAISSEUR
TROUS FORÉS POUR ACCUEILLIR DES
BOULONS M8 EN INOX À TÊTE
HEXAGONALE LONGUEUR 20 AVEC
ÉCROU NYLOC ET RONDELLE

VUE EN PLAN

DÉTAIL « D »

LOGEMENT DU PALIER SUPÉRIEUR DE
L'EXTENSION DE LA MÈCHE DU
GOUVERNAIL
ÉCHELLE 1:2,5

Figure E-01-Fig. 7

3/4" THK 55 PLT.
STOCK
KEYWAY SEE DETAIL 4
SECTION A-A
REAMED FOR 3/4" BOLTS
RUDDER & STOCK COUPLING FLANGES
SECURED BY SIX FITTED 3/4" HEX HEAD
STAINLESS STEEL BOLTS c/w NUTS &
WIRED TOGETHER WITH MONEL WIRE
AFTER FITTING

3/4" THK M.5. PLT.

A-1 – Tank Capacities Plan, Drawing # 95004-45

PRESSURE/VACUUM RELEASE
1/8" Ø HOLE
LONG BHD
DWL

DETAIL 1

PRESSURE/VACUUM RELEASE
PORT & STBD SIMILAR
LOCATED AT FRS 3, 7, 13, 17
NTS
(TYPICAL)
DWL

ELEVATION AT CENTERLINE

PRESSURE/VACUUM RELEASE (P&S)

SEE DETAIL 1
PRESSURE/VACUUM RELEASE
SEE DETAIL 1
FITTED WITH PET COCK (P&S)

ATTACHMENT LUG (TYP)
FOR DETAILS SEE REF DWG #3

(SHEET 1 OF 11)
ROPE TO ATTACH NET OVER BAG
(TYPICAL)

Figure E-01 - Fig. 7

PLAQUE DE 3/4 po D'ÉPAISSEUR
AXE DE MÈCHE
CHEMIN DE CLÉ VOIR DÉTAIL 4
COUPE A-A
ALÉSÉ POUR BOULONS DE 3/4 po
BRIDES D'ACCOUPLLEMENT DE
GOUVERNAIL ET DE MÈCHE FIXÉES À
L'AIDE DE SIX BOULONS À TÊTE
HEXAGONALE EN INOX DE 3/4 po AVEC
ÉCROUS, RELIÉS PAR UN FIL EN MONEL
À LA SUITE DE L'INSTALLATION.
PLAQUE M 5 3/4 po D'ÉPAIS.

A-1 – Plan de capacité des réservoirs, dessin n° 95004-45

ÉVACUATION PRESSION/DÉPRESSION
TROU 1/8 po Ø
CLOISON LONGUE
LFD.

DÉTAIL 1

ÉVACUATION PRESSION/DÉPRESSION
BÂBORD ET TRIBORD SEMBLABLES
SITUÉS AUX MEMBRURES 3, 7, 13, 17
NON À L'ÉCHELLE
(TYPIQUE)
LFD

ÉLÉVATION DANS LA LIGNE D'AXE

ÉVACUATION PRESSION/DÉPRESSION
(B ET T)

VOIR DÉTAIL 1
ÉVACUATION PRESSION/DÉPRESSION
VOIR DÉTAIL 1
MUNI D'UN TENON DE FIXATION (B ET T)

DE ROBINET DE PURGE (TYP.)
VOIR DESSIN DE RÉF N° 3 POUR
DÉTAILS
FEUILLE 1 DE 11
CORDE POUR ATTACHER FILET SUR
SAC (TYP.)

FRESH WATER 6 OFF
SEWAGE HOLDING TANK
VOID SPACE CENTER
13-16 DBL. BTM
13-16 DBL. BTM
10-12 DBL. BTM
12-13 DBL. BTM
12-13 DBL. BTM
STERN-3 DBL. BTM
3-7 DBL. BTM
7-9 DBL. BTM
12-13 DBL. BTM
16-19 DBL. BTM
19-21 DBL. BTM
21 – STEM
9-12 DBL. BTM
7-13 DBL. BTM
13-16 DBL. BTM
16-19 DBL. BTM
19-21 DBL. BTM
STERN – 3 WING
3-7 WING
7-13 WING
13-17 WING
19-21 WING
3-21 WASHROOM STEERING GEAR

20.5-21 WASHROOM
9-10 DBL. BTM
FILLED WITH FUEL
FILLED WITH FUEL
FILLED WITH FUEL
EMPTY
EMPTY
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
EMPTY
EMPTY
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
EMPTY
EMPTY
EMPTY
EMPTY
EMPTY

RÉSERVOIRS D'EAU DOUCE (6)
BAC D'EAUX USÉES
ESPACE MORT CENTRAL
13-16 DOUBLE-FOND
13-16 DOUBLE-FOND
10-12 DOUBLE-FOND
12-13 DOUBLE-FOND
12-13 DOUBLE-FOND
POUPE-3 DOUBLE-FOND
3-7 DOUBLE-FOND
7-9 DOUBLE-FOND
12-13 DOUBLE-FOND
16-19 DOUBLE-FOND
19-21 DOUBLE-FOND
21 – ÉTRAVE
9-12 DOUBLE-FOND
7-13 DOUBLE-FOND
13-16 DOUBLE-FOND
16-19 DOUBLE-FOND
19-21 DOUBLE-FOND
ÉTRAVE – 3 AILE
3-7 AILE
7-13 AILE
13-17 AILE
19-21 AILE
3-21 TOILETTE APPAREIL À
GOUVERNER
20.5-21 TOILETTE
9-10 DOUBLE-FOND
REPLI DE CARBURANT
REPLI DE CARBURANT
REPLI DE CARBURANT
VIDE
VIDE
REPLI DE POLYÉTHYLÈNE
REPLI DE POLYÉTHYLÈNE
VIDE
VIDE
REPLI DE POLYÉTHYLÈNE
REPLI DE POLYÉTHYLÈNE
REPLI DE POLYÉTHYLÈNE
VIDE
VIDE
VIDE
VIDE
VIDE

FILLED WITH POLYETHYLENE
PORTABLE POTABLE WATER
EMPTY

NOTES:

SPACES FITTED WITH ATTACHMENT
LUGS TO BE FITTED WITH
POLYETHYLENE BAGS.
POLYETHYLENE BAGS TO BE SEALED
WHEN FILLED.
ATTACHMENT LUGS TO BE FITTED
300mm BELOW TOP OF POLYETHYLENE
BAGS EXCEPT AT TANK #19 (P&S)
WHERE LUGS TO BE FITTED AS LOW AS
POSSIBLE.

CARGO WEBBING, SUITABLY SECURED
TO VESSEL'S STRUCTURE BY STRAP
AND NET, TO BE PROVIDED RESTRAIN
POLYETHYLENE BAGS TO BOTTOM OF
EACH SPACE.

No.

Reference Drawings

Drawing No.

LINES PLAN

PROFILE AND DECKS

CONSTRUCTION SECTIONS

WHEELHOUSE STRUCTURE

FLYING BRIDGE

AS FITTED

16 JUL 96

PRESSURE/VACUUM RELEASE ADDED

DRAWING TITLE CHANGED

HIKE

29 NOV 95

No

Revisions

Issued to

Date

Notes

REPLI DE POLYÉTHYLÈNE
RÉSERVOIR PORTABLE D'EAU POTABLE
VIDE

NOTES :

LES ESPACES MUNIS DE PATTES DE
FIXATION DOIVENT CONTENIR DES
SACS DE POLYÉTHYLÈNE.
LES SACS DE POLYÉTHYLÈNE DOIVENT
ÊTRE SCELLÉS UNE FOIS REMPLIS.
LES PATTES DE FIXATION DOIVENT
ÊTRE PLACÉES À 300 mm SOUS LA
PARTIE SUPÉRIEURE DES SACS DE
POLYÉTHYLÈNE, SAUF AU
RÉSERVOIR N° 19 OÙ LES PATTES
DOIVENT ÊTRE PLACÉES AUSSI BAS
QUE POSSIBLE.

DES SANGLES D'ARRIMAGE, FIXÉES
ADÉQUATEMENT À LA STRUCTURE DU
NAVIRE AU MOYEN D'ATTACHES ET DE
FILET, DOIVENT ÊTRE FOURNIES POUR
MAINTENIR LES SACS DE
POLYÉTHYLÈNE AU FOND DE CHAQUE
ESPACE.

N°

Dessins de référence

N° du dessin

PLAN DES FORMES

PROFIL ET PONTS

SECTIONS DE CONSTRUCTION

STRUCTURE DE LA TIMONERIE

PASSERELLE SUPÉRIEURE

CONFIGURATION FINALE

16 JUIL. 1996

ÉVACUATION PRESSION/DÉPRESSION

DESSIN AJOUTÉ TITRE MODIFIÉ

HIKE

29 NOV. 1995

N°

Révisions

Délivré à

Date

Notes

E.Y.E MARINE CONSULTANTS
Dartmouth N.B.
St. John's NFLD
Project
'ARUN' CLASS LIFEBOAT

Client
HIKE METAL PRODUCTS
Title
**TANK CAPACITIES PLAN AND
BUOYANCY MATERIAL LAYOUT**

Scale
N.T.S.
Client Approval
Date 13 Dec 95
C.C.G. Approval
18 Dec 95
Classification Society Approval
Drawn
G. PEET
23 OCT 95
Checked
T. THOMPSON
Project No.
Sheet 1 of 1
Drawing No.
Rev. No.

A-2 – Docking Plan, Drawing # 95004-18

DRILL 3/16"Ø DRAIN HOLES.

¾"Ø BOLT x 3/32" THREAD
HEX HOLES 10 DEEP TO SUIT 10mm
ALLEN KEY (SLOT FOR FUEL TANK
PLUGS)

PLUG DETAIL

MATERIAL – S.S. PLUG
SCALE 1:1
LIFTING POINT
LIFTING POINT
S.S. PLUG

E.Y.E MARINE CONSULTANTS
Dartmouth, Nouvelle-Écosse
St. John's, Terre-Neuve-et-Labrador
Projet
BATEAU DE SAUVETAGE DE CLASSE

ARUN
Client
HIKE METAL PRODUCTS
Titre
**PLAN DES CAPACITÉS DES
RÉSERVOIRS ET DISPOSITION DU
MATÉRIEL DE FLOTTAISON**

Échelle
NAE
Approbation du client
Date 13 déc. 1995
Approbation de la GCC
18 déc. 1995
Approbation de la société de classification
Dessiné par
G. PEET
23 OCT. 1995
Vérifié par
T. THOMPSON
N° de projet
Feuille 1 de 1
N° du dessin
N° de rév.

A-2 – Plan d'amarrage, dessin n° 95004-18

TROUS D'ÉVACUATION FORÉS DE 3/16
PO Ø

BOULON DE ¾ po Ø x FILET DE 3/32 po
TROUS HEXAGONAUX 10 DE
PROFONDEUR POUR CLÉ ALLEN DE
10 mm (FENTE POUR LES BOUCHONS DU
RÉSERVOIR DE CARBURANT)

DESSIN DE DÉTAIL DU BOUCHON

MATÉRIAU : BOUCHON EN INOX
ÉCHELLE 1:1
POINT DE LEVAGE
POINT DE LEVAGE
BOUCHON EN INOX

3"Ø S.R. AL.
DRILL & TAP FOR ¾"Ø BOLT

WHERE ACCESS POSSIBLE
NYLON WASHER 1-1/4" OD x 7/8" ID x
5/34" THK

DRAIN PLUG

SCALE 1:1

LIGHTSHIP CENTER OF GRAVITY
LCG = 891mm AFT OF MIDSHIPS

VCG = 2161mm ABOVE BASELINE

TCG = 6mm PORT OF CENTERLINE

LIGHTSHIP WEIGHT = 26.99 MT

DRAIN PLUG (TYP)
ANODE (P&S) (TYP)
FIRE PUMP (PORT ONLY)

DATUM LINE
BASELINE
TRANSDUCER (P&S)
TWO SHAFT COLLAR ANODES TO BE
FITTED
M.E. COOLING (P&S)

ELEVATION

D.A.P.
FRAME SPACING 535mm
FRAME SPACING 575mm
FRAME SPACING 650mm
WATERTIGHT VOID SPACES AT SIDES
PORT AND STBD
STEERING GEAR COMPARTMENT

ANODES AT TRANSOM
RESERVE FUEL OIL
SEA BAY
FUEL OIL
FUEL OIL
SEA BAY
FOREPEAK TANK

NOTE:

THE LIFTING POINTS, SHOWN ARE

3 po Ø S.R. ALU.
PERCER ET TARAUDER POUR BOULON
DE ¾ po Ø

LÀ OÙ L'ACCÈS EST POSSIBLE
RONDELLE EN NYLON 1-¼ po DIA. EXT.
x 7/8 po DIA. INT. x 5/64 po D'ÉPAISSEUR

BOUCHON DE VIDANGE

ÉCHELLE 1:1

CENTRE DE GRAVITÉ À L'ÉTAT LÈGE
CGL = 891 mm À L'ARRIÈRE DU MILIEU
DU NAVIRE

CGV = 2 161 mm AU-DESSUS DE LA
QUILLE

CGT = 6 mm DU CÔTÉ BÂBORD DE LA
LIGNE D'AXE

POIDS DU NAVIRE À L'ÉTAT LÈGE =
26,99 TM

BOUCHON DE VIDANGE (TYP.)
ANODES (B ET T) (TYP.)
POMPE D'INCENDIE (BÂBORD
SEULEMENT)

LIGNE DE RÉFÉRENCE
LIGNE DE LA QUILLE
TRANSDUCTEUR (B ET T)
DEUX ANODES EN FORME DE COLLIER
À MONTER SUR L'ARBRE
OMPES DE REFROIDISSEMENT DES
MOTEURS PRINCIPAUX (B ET T)

ÉLÉVATION

0 P.A.
ÉCARTEMENT DES MEMBRURES 535 mm
ÉCARTEMENT DES MEMBRURES 575 mm
ÉCARTEMENT DES MEMBRURES 650 mm
ESPACES MORTS ÉTANCHES À BÂBORD
ET TRIBORD
COMPARTIMENT DE L'APPAREIL À
GOUVERNER

ANODES SUR LE TABLEAU
CARBURANT DE RÉSERVE
PRISE D'EAU
CARBURANT
CARBURANT
PRISE D'EAU
RÉSERVOIR DU COQUERON AVANT

REMARQUE :

LES POINTS DE LEVAGE ILLUSTRÉS

EQUALLY DISTRIBUTED FOR AND AFT OF THE LIGHTSHIP LCG LOCATION.

THE SLINGS ARE TO BE ADJUSTED UNTIL THE BOAT LIFTS LEVEL.

THE AFT STRAP IS POSITIONED JUST FWD OF THE STERN TUBE WHERE IT EXISTS THE HULL.

PLAN AT TANK TOP

No

Reference Drawings

Drawing No

LINES PLAN

PROFILE AND DECKS

CONSTRUCTION SECTIONS

WHEELHOUSE STRUCTURE

SHAFTING ARRANGEMENT

FLYING BRIDGE

RUDDER & STOCK DETAILS

PRINCIPAL PARTICULARS

LENGTH, OVERALL

LENGTH, BETWEEN PERPENDICULARS

BEAM, MOULDED

DEPTH, MOULDED

DRAFT

COMPLEMENT

SPEED

SURVIVORS

15.773m

14.020m

5.208m

2.045m

18 knots

AS FITTED

24 APR 96

LIGHTSHIP WEIGHT AND CG ADDED

TRANSDUCER REMOVED

WT BHD AT FR13.5 CORRECTED

LOCATION OF SEA BAY CORRECTED

SONT RÉPARTIS À UNE DISTANCE ÉGALE À L'AVANT ET À L'ARRIÈRE DU CGL DU BATEAU.

LES ÉLINGUES DOIVENT ÊTRE AJUSTÉES JUSQU'À CE QUE LE NAVIRE SOIT À NIVEAU.

L'ÉLINGUE ARRIÈRE EST PLACÉE JUSTE DEVANT LE TUBE D'ÉTAMBOT LÀ OÙ IL SORT DE LA COQUE.

VUE EN PLAN SUR LE RÉSERVOIR

N°

Dessins de référence

N° de dessin

PLAN DES FORMES

PROFIL ET PONTS

SECTIONS DE CONSTRUCTION

STRUCTURE DE LA TIMONERIE

DISPOSITION DES ARBRES

PASSERELLE SUPÉRIEURE

DÉTAILS DU GOUVERNAIL ET DE LA MÈCHE

CARACTÉRISTIQUES PRINCIPALES

LONGUEUR HORS TOUT

LONGUEUR ENTRE PERPENDICULAIRES

LARGEUR, PARTIE MOULÉE

PROFONDEUR DU CREUX SUR QUILLE, PARTIE MOULÉE

TIRANT D'EAU

PERSONNEL

VITESSE

RESCAPÉS

15,773 m

14,020 m

5,208 m

2,045 m

18 nœuds

CONFIGURATION FINALE

24 AVR. 1996

POIDS DU NAVIRE À L'ÉTAT LÈGE ET CG AJOUTÉS

TRANSDUCTEUR ENLEVÉ

CLOISON ÉTANCHE À LA MEMBRURE 13.5 CORRIGÉE

EMPLACEMENT DE LA PRISE D'EAU CORRIGÉ

HIKE
08 DEC 95
DRAIN PLUG SIZE CORRECTED

HIKE
14 NOV 95
DRAIN PLUG DETAIL MODIFIED

HIKE
7 NOV 95
LOCATIONS OF ANODES SHOWN

HIKE
30 OCT 95
No
Revisions
Issued to
Date
Notes
E.Y.E. MARINE CONSULTANTS
Darhmouth N.S.
St. John's NFLD
Project
'ARUN' CLASS LIFEBOAT

Client
HIKE METAL PRODUCTS
Title
DOCKING PLAN
Scale
1:25 U.N.O.
Client Approval
Date
21 NOV 95
C.C.G. Approval
Classification Society Approval
Drawn
G. PEET
23 OCT 95
Checked
T. THOMPSON
Project No.
Sheet 1 of 1
Drawing No.
Rev. No.

HIKE
08 DÉC. 1995
TAILLE DU BOUCHON DE VIDANGE
CORRIGÉE

HIKE
14 NOV. 1995
DÉTAILS DU BOUCHON DE VIDANGE
MODIFIÉS

HIKE
7 NOV. 1995
EMPLACEMENTS DES ANODES
ILLUSTRÉS

HIKE
30 OCT. 1995
N°
Révisions
Délivré à
Date
Notes
E.Y.E MARINE CONSULTANTS
Dartmouth, Nouvelle-Écosse
St. John's, Terre-Neuve-et-Labrador
Projet
BATEAU DE SAUVETAGE DE CLASSE
ARUN

Client
HIKE METAL PRODUCTS
Titre
PLAN D'AMARRAGE
Échelle
1:25 U.N.O.
Approbation du client
Date
21 NOV. 1995
GCC Approbation
Approbation de la société de classification
Dessiné par
G. PEET
23 OCT. 1995
Vérifié par
T. THOMPSON
N° de projet
Feuille 1 de 1
N° du dessin
N° de rév.